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Cover Image

3dtotal.com

Old & Gaunt

This month we launch our new Character Creation tutorial series for ZBrush. The talented artist, **Rafael Ghencev** will show us how to transform a generic head base mesh into numerous variations over the course of the next nine months. In this issue, we kick off with an Old & Gaunt man!

Interviews
Alan Camara & Eduardo Martin Julve

Articles
Q-Spheres

The Gallery
Ciprian Andrus, Simon Blanc & Volkan Kacar, plus more!

Making Ofs
'Back in Memory' by Esam Darweesh, plus more!

Tutorials
Texturing & Lighting Mega Tutorial Series – Part Two

Editorial

Welcome to Issue 37! This month, on the back of our Beginner's Guide to ZBrush tutorial series, we've gone ZBrush crazy! Not only are we kicking off one brand new 9-part ZBrush tutorial series for you this month, but we are also introducing a new series where we'll feature 2 artists every month 'speed sculpting' from a brief set by 3DCreative, and we'll show their tutorials covering the stages of creation – some even with accompanying movies, courtesy of the artists! But before I get carried away with that, let me first tell you a little about the new ZBrush tutorial series – "ZBrush Character Creation". This is a fantastic series which is being created by the most amazing ZBrush Sculptor, **Rafael Ghencev**. You only have to take a look at his website to see the incredible talents of this artist, and we're lucky enough to have him working with us over the next 9 months on a great tutorial series where each month he will take a generic, clean head mesh and transform it into one of our detailed character themes – this month we feature an old/gaunt man. Future topics will get progressively more complex and bizarre, as we move on to an obese man next month, and the tutorial series will end with a Frankenstein character. And not only is he sculpting these characters, he's also texturing them! We're all really excited about this series here at 3DCreative and we're eagerly waiting to see Rafael's next instalment, so stay tuned for the next few months as we get stuck into more and more detailed ZBrush sculpting, but for the first chapter check out PAGE 67. Our other new ZBrush series is set to be ongoing, so we'll keep bringing them for as long as we can, and as long as you love them, and this month we feature the talents of **Alex Oliver** and **Jesse Sandifer**, each interpreting the brief "Pirates – Past & Future". Alex Oliver has even generously provided real-time video footage of the creation process that accompanies his tutorial in not one, but 17 downloadable movies (yes, 17!). Jesse Sandifer has also provided 3 great tutorial movies showing his working process, too, and – as usual when you ask 2 artists to interpret a brief – the results are fantastically different, and I'm sure you'll be impressed, so check out PAGE 55 for those. We're even providing the same base mesh that we gave to Alex and Jesse with the tutorial for free in this issue, so download the mesh and get sculpting!

We have two interviews this month with **Alan Camara**, who specialises in realistic and stylised 3D characters (PAGE 7), and **Eduardo Martín** who is currently working on the feature film "Planet 51" at Ilion Animation Studios (PAGE 17). We also feature a rather different interview this month in our Studio Interview with **Q-Spheres** – a studio that finds and photographs locations as HDR-environments! You tell them what you want, they go find and shoot it! Genius!! See PAGE 27 for that one!

Our Making Of articles this month feature a Wolverine Tribute from **Nicolas Collings** (PAGE 101), and a scene made by **Esam Darweesh** which was created as a response to past memories (PAGE 107). Oh and don't forget we're on Part 2 of our main tutorial series kicked off by **Richard Tilbury** last month; note that in the November issue we'll introduce the usual 5 software series parts of this tutorial, so it's going to get BIG real soon! Hope you enjoy the latest issue from the 3DCreative team! Cheers, ED

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Get the most out of your Magazine!

If you're having problems viewing the double-page spreads that we feature in this magazine, follow this handy little guide on how to set up your PDF reader!

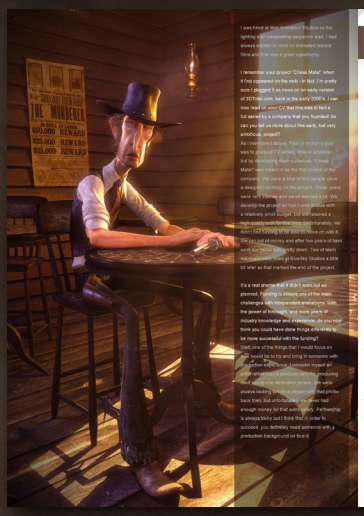
SETTING UP YOUR PDF READER

For optimum viewing of the magazine, it is recommended that you have the latest Acrobat Reader installed. You can download it for free, here: DOWNLOAD!

To view the many double-page spreads featured in 2DArtist magazine, you can set the reader to display 'two-up', which will show double-page spreads as one large landscape image:

1. Open the magazine in Reader;
2. Go to the VIEW menu, then PAGE DISPLAY;
3. Select TWO-UP CONTINUOUS, making sure that SHOW COVER PAGE is also selected.

That's it!



Contributing Artists

Every month, many artists around the world contribute to 3DCreative Magazine. Here you can read all about them! If you would like to be a part of 3DCreative or 2DArtist Magazines, please contact:

lynette@zoopublishing.com

Aged & Weathered

The start of this new tutorial series sees Richard Tilbury tackle the opening three chapters. Richard will then hand over to our new tutorial artists; these wonderful people will be responsible for creating the remainder of the series for 3ds Max, Cinema 4D, Lightwave, Maya & Softimage XSI.

Richard Tilbury

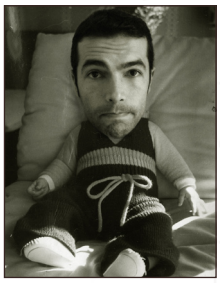
Has had a passion for drawing since being a couple of feet tall. He studied Fine Art and eventually was led into the realm of computers several years ago. His brushes have slowly been dissolving in white spirit since the late nineties, and now, alas, his graphics tablet has become their successor. He still sketches regularly and now balances his time between 2- and 3D, although drawing will always be closest to his heart. http://www.richardtilburyart.com

Alan Camara

Has experience in high-poly and low-poly modelling, and texturing and rendering for realistic and cartoon characters. He discovered his passion for digital art 10 years ago and has worked on several productions (commercials, teasers and video-clips), and is now looking for work in the games industry. http://www.alanbrainart.blogspot.com/

alan.denverbz@gmail.com

Edu Martín



Was born in Barcelona 33 years ago, and has been working as a 3D Artist for the last 12 of those years. He's currently working at Ilion Animation Studios on the feature film Planet 51 as the lighting and compositing sequence lead. In the past he founded a small animation studio called "Pixel in Motion", best known for the 'Chess Mate' project!

http://www.theposmaker.com/

edu@theposmaker.com

Alex Oliver

Is a traditional sculptor who moved to digital art 2 years ago. He is now a digital sculptor and creature/character concept artist, who also teaches ZBrush and traditional sculpting at a 3D school. Alex's work can be seen in many forums around the world, and he has worked on projects such as sea monsters for National Geographic, and Golden Axe with Gentle Giant Studios. http://www.alexoliver.art.br/

mail@alexoliver.art.br

Jesse Sandifer

Is a self-taught digital artist with 8 years experience. He co-owns Green Grass Studios in Dallas, Texas, which works on a variety of projects for films, games, television, commercials and in-game arena entertainment. Most of his spare time is spent participating in online challenges, doing personal artwork and dabbling with drawing and traditional sculpting.

http://www.jessesandifer.com

jessesandifer@gmail.com

Rafael Ghencev

Is a 25 year old Character Artist, based in São Paulo, Brazil. He has had a passion for art since he was a young boy and saw his grandfather painting and drawing. He has since been searching to increase his skills and knowledge, and his passion for sculpture and drawing drives him to balance his studies between traditional art and 3D.

http://www.rafestuff.blogspot.com

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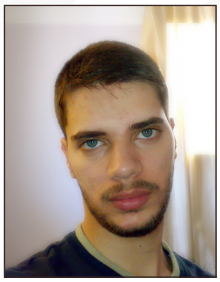
Esam Darweesh



Is a 23 year old freelance 3D Artist from Palestine. He has four years' experience in 3ds Max and has worked on many projects. His main skills are modelling and texturing environments, and he prefers to create scenes of old places and those filled with memories – and anything that can take you outside of this world!

http://esamdrsh.com

esamdrsh@hotmail.com

Nicolas Collings

Is a 3D Character Artist who has been working in the 3D industry for about 3 years now, and was recently hired by Ubisoft Montréal in July 2008. He took his first 3D class in 2002 and has been hooked ever since!

http://nicolascollings.com

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Would You Like to Contribute to 3DCreative or 2DArtist Magazine?

We are always looking for tutorial artists, gallery submissions, potential interviewees, Making Of writers and more. For more information, send a link to your work here: **lynette@zoopublishing.com**

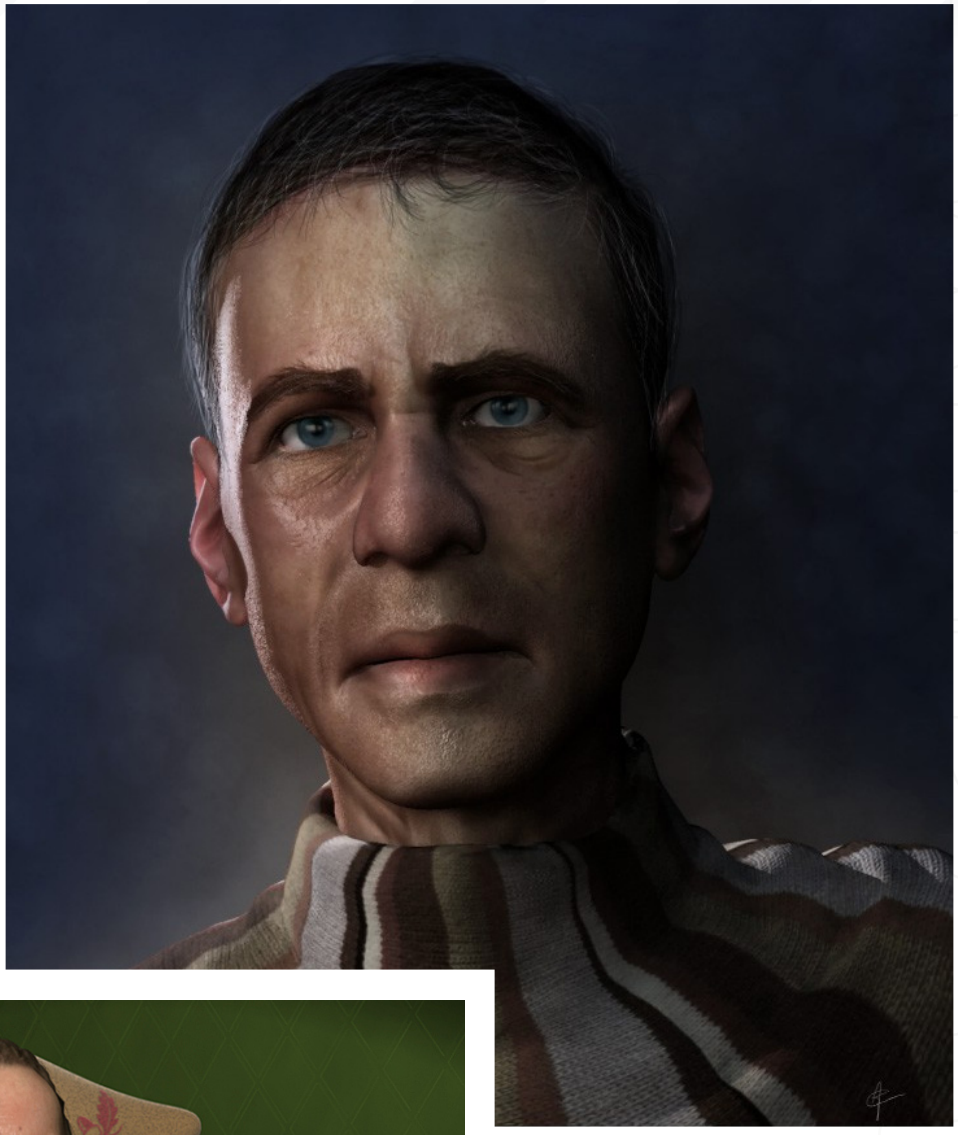
image by Eduardo Martin Julve

Alan Camara

"Ever since I was a child I have been involved with arts, in general. My father is a sculptor and painter and I have always observed him working on his characters."

When you hear the name "Alan Camara" you will most likely immediately think of his fantastic 3D image of Salvatore. The 3DCreative team are big fans of Alan's work, and not only is he a superb 3D artist, he's also a genuinely nice guy! So we figured it was about time we got to know a bit more about Alan and share him with our readers… Enjoy!

Alan Camara



Hi Alan! So first up can you tell us a little about yourself and what it was that originally got you started and "hooked" on 3D digital art?

Hi everyone, my name is Alan Camara, I'm an artist from Brazil and I'll tell you here a little bit about me, my work and skills. First of all, I mustn't forget to thank the 3DCreative team for this opportunity - thank you guys!

Ever since I was a child I have been involved with arts, in general. My father is a sculptor and painter and I have always observed him working on his characters. But he doesn't like computers at all - he originally thought they were unable to produce art - and I think he would have loved it if I had become a traditional artist. Despite this, years later I bought my first computer and started having fun with it. Soon after, a friend showed me 3D Studio 4.0 for DOS, and when I dragged the mouse and the "grid" rotated, I thought, "My God, it's incredible!" It was definitely that "grid" that got me!

Afterwards, I found out about Maya, and I dedicated myself to what my father had taught me: characters and organic things. Beginning 3D work was difficult, because the concept of it was completely different to anything I had seen before. What was a "vertex"? And what did "extrude one face" mean? I was lost! After this terrible first step, I finally succeeded in completing my first works. The next step for me was to become a professional!

So, I started showing my works on the Internet. My first work accepted was "Chico", which was published in the 3DTotal.com Galleries.

With this, I was able to gain recognition as a professional. I've worked for some years as a freelancer for the advertisement industry in Brazil, working on TV and printed publicities, as well as on video clips, as a modeller and texture artist.

I'm sure your father is proud of what you have accomplished, Alan! So you say you were lost when you first started 3D. How did you find the right path? Were there any websites in particular that were useful in learning the basics? How did you get through the rough times of the beginner to make it as a professional?

Yes, of course, my father always asks to see my last job!

Finding the path was not easy, and even when I managed it, I couldn't find good places to learn 3D here in Brazil. So I bought some books to get started, and I remember that one of the biggest challenges was to make a head – I think almost all 3D artists start off like this! I also had many doubts about what the best way to begin was. Was it with NURBS? Polygons? Box modelling? Poly by poly? I didn't know. But I managed to complete my first work through sites like 3d4all.org here in Brazil, CGTalk and using tutorials on 3DTotal.com. With this I finally found the ideal method that I use today: poly by poly.

After that first stage, I started doing some works involving modelling, texturing and using shaders for video clips of some bands, one of which was the "Sepultura" video, with the clip called "Convicted in Life", directed by Louis Carone. I then started my professional portfolio, and eventually started working for Casablanca Animations, one of the major studios here in Brazil, where I have been working for about two years. I also work for a studio called "Seagullsfly Studios".

There are so many software packages available today for CG artists and we see many artists using a combination of multiple software versions and packages to create the stunning images that grace the forums and CG sites daily. So what is your favourite piece of software, and how did you come to discover that it was the best programme for your artwork?

I think it's difficult to say what my favourite is because there are so many incredible software choices available! Maya for sure is my first option to finish my jobs, and I have experience with 3ds Max, too. Before ZBrush things were very complicated, and this software has definitely been very important for CG.

Software like ZBrush will always be about 70% of the pipeline of any studio. As I always say, ZBrush is still a child and has a lot to offer with regards to the modelling, texturing and rendering for sculptors and illustrators. For me,

it has been really great to include ZBrush in my workflow, and I have saved many hours of work in doing so. I'm looking forward to and imagining the great things that this software will bring in the future!

Another software choice that I think is great is Topogun. This has amazing possibilities to retopologise high poly models to low poly ones, and to generate maps such as ambient occlusion and normal maps. For sure, this is essential software for a good workflow!


Alan Camara
Mr. Freeman WIP

Yes, it seems ZBrush is a popular software choice with many artists today, doesn't it? It seems to have swept everyone off their feet! Can you tell us about your workflow and how you incorporate the likes of Maya, 3ds Max, ZBrush and Topogun into your art creation?

Yes, many artists use it today; I think everyone is almost unanimous about ZBrush now! Today, when I create an organic model, I always try to start in ZBrush because I think the concept of digital clay is incredible. You don't need to worry about edge loops and vertexes at the beginning of the piece. To me, the rule is this: first, enjoy yourself; second, adopt the model, and then third, retopologise it! I also use it for textures – it really is "perfect" software!

I've been working with Topogun for some time now. It is software that greatly facilitates the process of rebuilding the model, and therefore optimising the process. Topogun can also generate maps such as displacement, normal, ambient occlusion and others. The software speeds up the workflow greatly, to transform the digital clay that comes from ZBrush into a light mesh needed to finish it off in Maya or 3ds Max.

I can see from your blog (http://alanbrainart.blogspot.com/) that you're constantly practicing and improving your 3D skills. You seem to have a real passion for capturing a likeness in your artworks, as can be seen from your 3D studies of Morgan Freeman and Jack Nicholson, and in contrast, you also have a real skill for creating stylised cartoon-like characters. What is it about these two contrasting styles that motivates you to create 3D artwork, and why?

Yes, for me it's an obsession to study it and I have to do it every day. I think likeness is a big challenge for any artist, because capturing someone's face is very difficult in 2D. However, I believe that using 3D is even worse, because many times there are just not enough good references for all of the angles of the character you wish to model. But I have seen incredible and inspirational works on the Internet, like the works from Jacques Defontaine, with amazing likenesses. Some months ago I did some studies of Salvatore, which I finalised, plus three more including 3D studies of Morgan Freeman and Jack Nicholson.

I believe that I can't focus on just the one style though, and I like to do everything: creatures, animals, robots, humans – everything! I also create simple things too, like cartoons, and I have a lot of fun with them as well! When I look at my last work, with the guy holding the teapot, I think it's really funny and then I ask myself, "What is his intention?"

So you mention Jacques Defontaine as one of your inspirations – are there any others we can check out?

Yes, when I started doing studies on likeness I was inspired by the work of Jacques Defontaine, but I also certainly had in my mind references to some other artists who have all inspired me to improve my work more each day, such as Steven Stahlberg, Krisnamurti Kosta, Fausto de Martini and many others.

You seem to have a really good eye for lighting your images well to achieve the very best from them in order to interpret your artistic concepts. Can you share with us some of the tips and tricks you use when approaching the lighting of a new image?

A good knowledge of software is very important in the first instance. Virtual lights, textures and shaders can succeed in natural results, but observation of the real world is very important in order to understand why things react in different ways to a source of light. Normally I use many references for the type of scene I want. The first step is to the model and texture as well as I possibly can, and the second step is to search for light references and adapt them for my own scene, adjusting each individual light and then mixing them all. And that's it, really!

When you say that observing the real world is important, do you find photography helpful in order to capture real world situations and to understand how light reacts with the camera lens under different circumstances? Are there any other tips you may have for artists out there who may need some help with their lighting setups?

There is a phrase in Brazil that says, "One image is better than 1000 words", but I believe that one beautiful image can be worth so much more!

I like to observe what a beautiful image comprises of. For example, depending on the time of the day, colours are all different, as are the shadows. The material of scenery also changes, so how do we reflect these changes artificially in our 3D programmes?

Some rendering software already offer lighting, such as "physical Sun Sky" "Mib Cie" (Maya) and incredible materials like "Miss Skin Shader" that simulate the effects of "SSS" (Subsurface Scattering). And then

there's Pixar Renderman which has incredible skills and is also speedy! So there are many options that you can choose from in order to achieve a great performance.

To me there are two ways to start to illuminate. I use the first one when I need fast progress, and in this case I would choose Final Gather because with not much light I can get good results. But I try to avoid this method when the scenery is animated. Also the processing of the render is slower this way, and this method can also bring about some surprises that I don't want, such as wrong calculations or flickering materials (noise that appears in the scenery during the animation in some points of lights).

The second way is to build the scenery with simple lights. This method is "old school", but it works pretty well, is fast and is very artistic! We need to understand that when I'm close to a red wall, my white T-shirt will seem to be pink, and so I need to put one red light between the wall and me to achieve this result in 3D. This is just a quick example to illustrate this method, which is my favourite because it offers infinite possibilities!


Rendered by Marinho Silva

Okay, so we've had a chat about your previous works, now can you tell us a little about your upcoming projects and what you hope to achieve in the future?

Well, I definitely want to spend my time doing models for games. For some time now I've been translating my experience in modelling in high poly to modelling in low poly. This is my goal, for now. I hope in the future to be working a lot with games, here in Brazil. That would be great!

Are there any games companies in Brazil, in particular, that you'd like to work for? Also, would you ever like to work abroad? If so, what would be the perfect job to persuade you to take the plunge and move overseas?

Unfortunately there aren't any games companies in Brazil; the market over here for CG focuses only on publicity. This is the reason why many Brazilian artists have been working out of the country. I would love to be able to work from here, but we always need to find alternative ways, so if a great opportunity shows up which involves me working abroad then I could definitely change my plans.

Thanks a lot to the 3DCreative team for this interview. For sure, 3DCreative is a great reference for the CG community world-wide. Thanks also to everyone who has supported my work so far!

Thanks Alan, it has been a pleasure.

ALAN CAMARA

For more work by this artist please visit:
http://alanbrainart.blogspot.com/
Or contact them at:
alan.denverbz@gmail.com
Interviewed by: Lynette Clee

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Eduardo Martin Julve has had an intensive CG career; not many artists of his age can claim to have experienced and achieved so much. He started out by setting up his own production company and now he works for Ilion Animation Studios - read on and be inspired!

EDUARDO MARTIN JULVE

For the last 12 years, ever since your first job as a junior artist at Proximity, you seem to have quite an intense career! Can you tell us a bit more about what you regard as the most important milestones?

Well, working in this industry makes every day a milestone. Everything is evolving so fast that you have to be up to date all the time. Anyway, there are a few important milestones in my career. Back in the mid 1990's, when I first started in the CG industry, it was extremely difficult to find information relating to this field. In Spain, the culture of Internet arrived a lot later, so if you had any problems with your software then you had to figure them out yourself or use the manuals to find the solution. You were on your own. Although the learning process was quite slow, my mind got used to solving problems for itself and that's something that has been very useful throughout my career.

After a couple of years of doing industrial CG, I had the chance to work at one of the largest post-production houses in Spain at the time, which was Videoefecto (Molinare Barcelona). During my time there, I learned the meaning of "tight deadlines"; I worked tons of overtime, faced clients who didn't know what they wanted and grew to know the post-production business from the inside out. Besides all the hard work, that period was also very helpful because I learned how to speed up my working process, how to cheat on things and how to organise my 3D scenes so that if the clients wanted to modify anything (and they always do), it didn't mean I had to start all over again.

Valle Paraiso

★ A SHORT FILM BY EDUARDO MARTIN JULVE ★

PRODUCCIÓN EJECUTIVA: EDUARDO MARTÍN
BANDA SONORA ORIGINAL DE DANIEL TEJERINA ZABALA LOCUCIÓN PEPE MEDIAVILLA
DISEÑO DE SONIDO Y MEZCLAS: PEP AGUILÓ
ADAPTACIÓN DE LA HISTORIA PARA LA ANIMACIÓN DE EDUARDO MARTÍN Y MARIO TARRADAS
BASADA EN UNA HISTORIA DE EDUARDO MARTÍN GUIÓN EDUARDO MARTÍN Y MARIO TARRADAS
DIRIGIDA POR EDUARDO MARTÍN JULVE

IMAGE FILM
pixelinmotion COMPUTER GRAPHICS
INFINIA

In 1999, when I was only about 24, I decided to start my own company: Pixel in motion. Starting a new company is always very hard, but the learning curve was huge. This period made me face new challenges; budgets came into the game, scheduling, invoices, facing clients and also hiring and managing people. The goal of the company was always to create our own content, but we had to combine that with providing 3D services to third party companies so we could get some money to keep the company alive. That's how "Chess Mate!" was born, which we'll talk about later.

After more than two years of really hard work on the Chess project, we decided to throw in the towel. We were self-financing the project and while we talked to lots of people, companies and TV channels, we didn't get the external funding we needed for it. Despite this, I still had the need to create something - so I started to work on the short film *Valle Paraiso*. I decided to face it alone because I'd had a bad experience with a previous short film (*Smoke City*, 1999) where people who were involved at the beginning disappeared a few months later. During the first year I was working at Pixel in motion at the

same time, but I decided to quit from Pixel and focus on the short instead. My partner took over the responsibility for the company and I went home to finish the film. I started to teach 3D stuff in some universities and doing some freelancing to get some money. Again the learning process doing the short film was huge. It was a very ambitious project to be faced alone, almost 12 minutes long, 140 shots, six characters, five sets... I had to organise the pipeline of the film very carefully, so that it didn't become a mess after a few months. Except for the music, I did everything on the film, from the script and the storyboard to the final compositing - and it took me two years to finish it. Unfortunately in this case, I wasn't only learning but "unlearning". When you start a project that will take you so long, you commit yourself to the technology of that moment. When I started there wasn't GI, final gather, subsurface, Zbrushes - or they were poorly implemented. So once I was done I realised that I was a little bit out of the loop in terms of technology.

Once I finished the short film, I kept working as freelancer. I moved to Iceland to work on a TV show called Lazy Town and in August

2007, I was hired at Ilion Animation Studios as sequence lead. I had always wanted to work on animated feature films and that was a great opportunity.

I remember your project “Chess Mate!” when it first appeared on the web - in fact, I’m pretty sure I plugged it as news on an early version of 3DTotal.com, back in the early 2000’s. I can now read on your CV that this was in fact a full series by a company that you founded! So can you tell us more about this early, but very ambitious, project?

As I mentioned above, Pixel in motion’s goal was to produce TV series, films or whatever, but by developing them ourselves. “Chess Mate!” was meant to be the first project of the company. We were a total of four people (plus a designer) working on the project. Those years were very intense and we all learned a lot. We develop the project so that it was doable with a relatively small budget, but still retained a high quality look for that time. Unfortunately, we didn’t find funding to be able to move on with it. We ran out of money and after two years of hard work our moral was pretty down. Two of team members were hired at BlueSky Studios a little bit later so that marked the end of the project.

It’s a real shame that it didn’t work out as planned. Funding is always one of the main challenges with independent animations. With the power of hindsight, and more years of industry knowledge and experience, do you now think you could have done things differently to be more successful with the funding?

Well, one of the things that I would focus on now would be to try and bring in someone with production experience. I consider myself an artist rather than a producer and the producing itself needs one dedicated person. We were always looking to hire a person with that profile back then, but unfortunately we never had enough money for that extra salary. Partnership is always tricky but I think that in order to succeed, you definitely need someone with a production background on board.

Judging by your online gallery it seems obvious that stylised characters are you "thing", but you also seem to have a strong interest in lighting too. Can you tell us more about these two topics and how you bring them together?

Digital characters have been my drug throughout the years. When I was young I used to draw characters all the time, so once I started using 3D software it was natural for me to focus on digital characters. On the other hand I had always been very interested in lighting from those years where I was studying photography. Everything else is shown on the renderings. I like to create interesting characters and put them under nice lighting conditions to make them look even better.

Which of all of your characters is your favourite and what is the story behind their creation?

My favourite characters are the Mexican wrestler and the cowboy. They are also the newest ones, so they are the ones I'm most proud of at the moment. The first one is one of the few characters in my career without a specific story behind him. As I mentioned before, when I finished the short film I felt a little bit outdated, so I started to work on the wrestler mainly as a excuse for testing the new mental ray features and to free my mind of those little kids from the short film who had been in my head for such a long time.

The cowboy was created, once again, as the main character for a short film. As you can see my career has always been linked to the storytelling. Unfortunately doing a short film is extremely heavy and doing it alone even more. The script is already written, but I would like to do it properly, with great artists working on those areas were I have less experience. After finishing Valle Paraiso, I had the feeling the film was just "fine" in relation to the 3D. Actually at certain point during the production I realised that I needed to keep the film balanced because it was going to be impossible to work on every shot to fine-tune it. Although the animation is quite poor in general, I think nothing is especially good or bad in the film. If I ever do the cowboy film, I want to do it properly so I've decided to put it on hold until I can get the right people in place.

Can you tell us about the latest project you are working on for Ilion Animation Studios?

Unfortunately, I can´t say much about the

project itself because of the NDA. I'm working as the lighting and compositing sequence lead and I consider this job as one of those milestones that we were talking about earlier. For many years I have been working as a generalist and the kind of projects that I've been involved with in the past didn't allow me to focus on a specific part of 3D. By the end of projects, I knew a little bit of everything, but I was never able to completely master the parts that I really enjoyed working on. This project has allowed me to focus on the lighting and compositing and the learning progression has been amazing. I think most people will be really surprised by the quality of the film. Sony is distributing it, so hopefully they will release the film worldwide.

Now that you are specialising in lighting and compositing, are you still learning new things everyday? Are there any particular recent discoveries that have helped your workflow?
Some of my greatest discoveries in this job have come from the compositing of 3D shots and how both lighting and compositing ties together. In the past I had always been compositing in an amateurish way. It's been at Ilion that I've

discovered how much good compositing can add to your lighting. I have started working with the different elements that comprise an image (diffuse, GI, reflections) as well as render the lights as separate passes so you have a huge amount of control over your final frames.

Which other artists have inspired you throughout your career?

It may sound clichéd, but Pixar is one of the companies who continue to inspire me with every new film. Not only for the amazing 3D that they show in their films, but also because they are always one step ahead of the other companies. I can see all the other big studios trying to copy them, while they are only worried about facing new challenges and creating memorable films.

In terms of inspiring individual artists, I can mention a few whose work I really admire. My friend Enrique Fernandez (http://enriquefernandez0.blogspot.com/), Adria Garcia and Victor Maldonado from Headless (http://www.headless.es), Alex Huget (http://metamesh.cgsociety.org/gallery/), JJ Palomo (http://www.biglazyrobot.com), Daniel Martinez Lara (http://www.pepe-school-land.com) to mention a few Spanish fellows. Internationally speaking Marek Denko (http://marekdenko.net/), Antropus (http://antropus.cgsociety.org/gallery/), Michael Sormann (http://www.sormann3d.com/), Lauren Pierlot (http://sato.cgsociety.org/gallery/) and many others that I'm forgetting.

That's a great bunch of artists you've listed there, Eduardo. I've also interviewed some of them myself and I'm sure the readers will recognise many of the names too. Any final piece of advice you would like to offer to our student readers to round things off?

Be humble about your work. I've seen too many people who have just come out of school, talking as if they're masters of 3D - when in fact the work they are producing are far from being master pieces. Be honest with yourself and compare your work with the stuff shown on the net. Criticize your own work as if it were somebody else's: is my work better than the average, or worse? Try to find why other people's work is better than yours.

Another important thing is to always be willing to share. The more you share your knowledge, the most you'll get from the people around you. It's a kind of an action-reaction basis. It's funny to see how it's the artist who are famous worldwide that are the most accessible and humble guys in the industry. They don't mind sharing whatever they know or learn, and they are always trying to learn more because they know that there is a lot still to discover.

The last thing bit of advice would be: work hard and keep your dream alive. Try to aim for reasonable milestones and once you achieve one, move on to a harder one. And of course, enjoy the ride!

EDUARDO MARTIN JULVE

For more work by this artist please visit:
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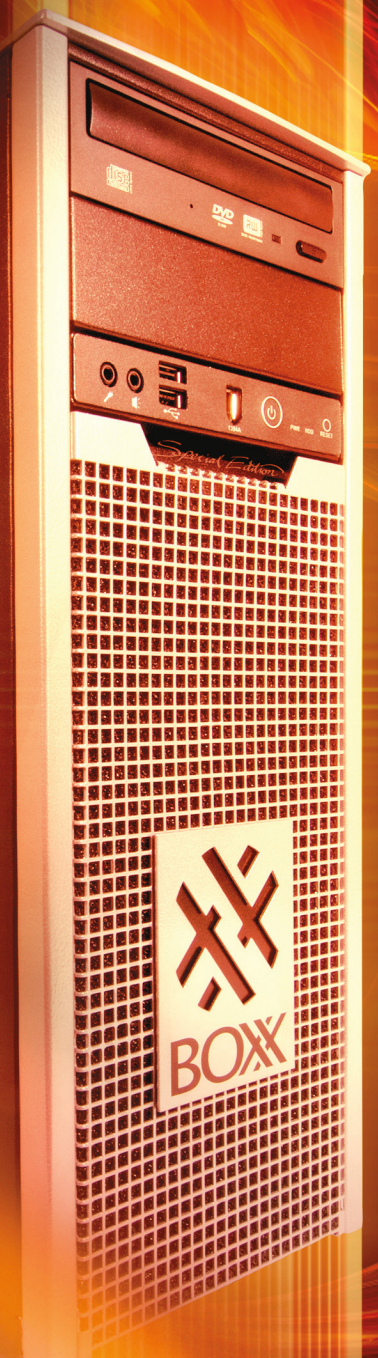

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Q-spheres

Real life locations for 3D

These guys are photographic experts, who capture hyper real environments from the real world and deliver them to the client in a format to drop into their CG projects. Still not sure what it's all about? Here's their definition:

"A Q-sphere is a container with images and text for creative visualization of 3D objects in real life locations. You can compare it to a Swiss army knife or a Leatherman: it has one handle, but you can flip out all of the necessary tools or information."

Intrigued? Read on to find out more ...

Q-spheres

Hi Jo, I have been browsing your slick site (**www.q-spheres.com**) and although you make it quite clear what your services are, I would still like a summary from you if possible? Will you really go on-site and produce your customer a HDRI anywhere in the world? And what other services besides HDRI do you offer?

Q-spheres started as a project of several location professionals who have great experience in car photography and the network is now spread over 10 countries. Our job is to travel the world and find those great places to do car shoots. But nowadays, with the use of CGI for car adverts, people ask us to deliver high end photography too.

We produce Q-spheres on demand - this means indeed we go on location and deliver the right backgrounds with the right light.

Besides the “on demand Q-spheres”, we also deliver “lightfield services”. This is the case when a star photographer wants to make his own background images - we’ll search the location, organise the shooting and go with him on location to deliver the lightfield and 3D measurements.

Can you tell us a bit about the equipment you use? Are there ways for hobbyists to make good HDRI’s on a small budget?

We use a Swiss camera, the Roundshot, to make our lightfields. In my eyes, it’s the fastest way to capture the “right light”. We need around 20 seconds to make high resolution lightfields - up to 200 million pixels - and a dynamic range of 18 stops. That’s the “pro” way.

In a professional environment, we need to deliver the exact “light momentum” - that’s why

speed at capture and resolution is so important. Light goes fast, the sun moves, clouds are coming by - the environment changes continuously.

We're looking into real time HDR capturing with "video like cameras", but we're not there yet!

In a hobbyist environment, I guess the mirror ball or fisheye lenses are still being used, although both have their proper imperfections like scratches, blind spots and chromatic aberrations.

What has been the most demanding project to date and why?

All projects are demanding [Laughs].

Our aim is to deliver the right light to make the final images as realistic as possible. The most difficult situations are sunrise/ sunset and moments where clouds are moving very fast - that's a real challenge. And pretty stressful! The advantage of CGI in advertising is that you can take some more time to scout and wait for the right light. The team is small and you can reach the right place and light more easily. It's more challenging to get through the security in the airports with our equipment than to make a lightfield!

What elements do you look for in an environment that make a particularly good background for CG?

That really depends on the job. Before we start looking for the right location, the brief needs to


VICTOR
3DSTUDIO
Location, background, lightfield: Q-spheres.com
Cg artist: Daniel Da Silva (Still-cg.com)


FORUM
2 25
CIRCO AMERICANO
BARCELONA
FORUM
2 25

Photographer : Mario Toscani - www.mariotoscani.com
Location : Phorward (NL)
Lightfield services : Q-spheres

be clear. In most cases the location needs to be 360 around as graphic as possible to avoid complicated reflections in the 3D object.
The location needs to tell something about the product and give it a high emo-factor.


Photographer : Peter Boudestein
CG artist :David Drese @ StillCG
Location & Lightfield : Q-spheres

Do you plan on making a collection of HDRI's for individuals to buy on DVD as well as doing bespoke one-off shoots?
We don't currently plan on making DVD's with HDRI's - but it's a good idea! In the very far future we may deliver some Q-spheres online. The demands of the clients are mostly very specific, so it's complicated to get the right emotion, colours and feel that they want.

How do you see your industry developing in the future?
In my eyes, product photography will be "finished" in a couple of years. At this time loads of people are working with cars to develop this technology because the car industry is earning millions of dollars using CGI. But the step to consumer goods is really very small.

Location, background, lightfield: Q-spheres.com
Cg artist: Frederic Vanmeerbeeck (Still-cg.com)

The coming of new real-time rendering software like Bunkspeed, VRED, Photoshop 3Dlayers is changing the world fast. 3D software will spread like Photoshop and be common in the graphics and retouching studios very soon now.

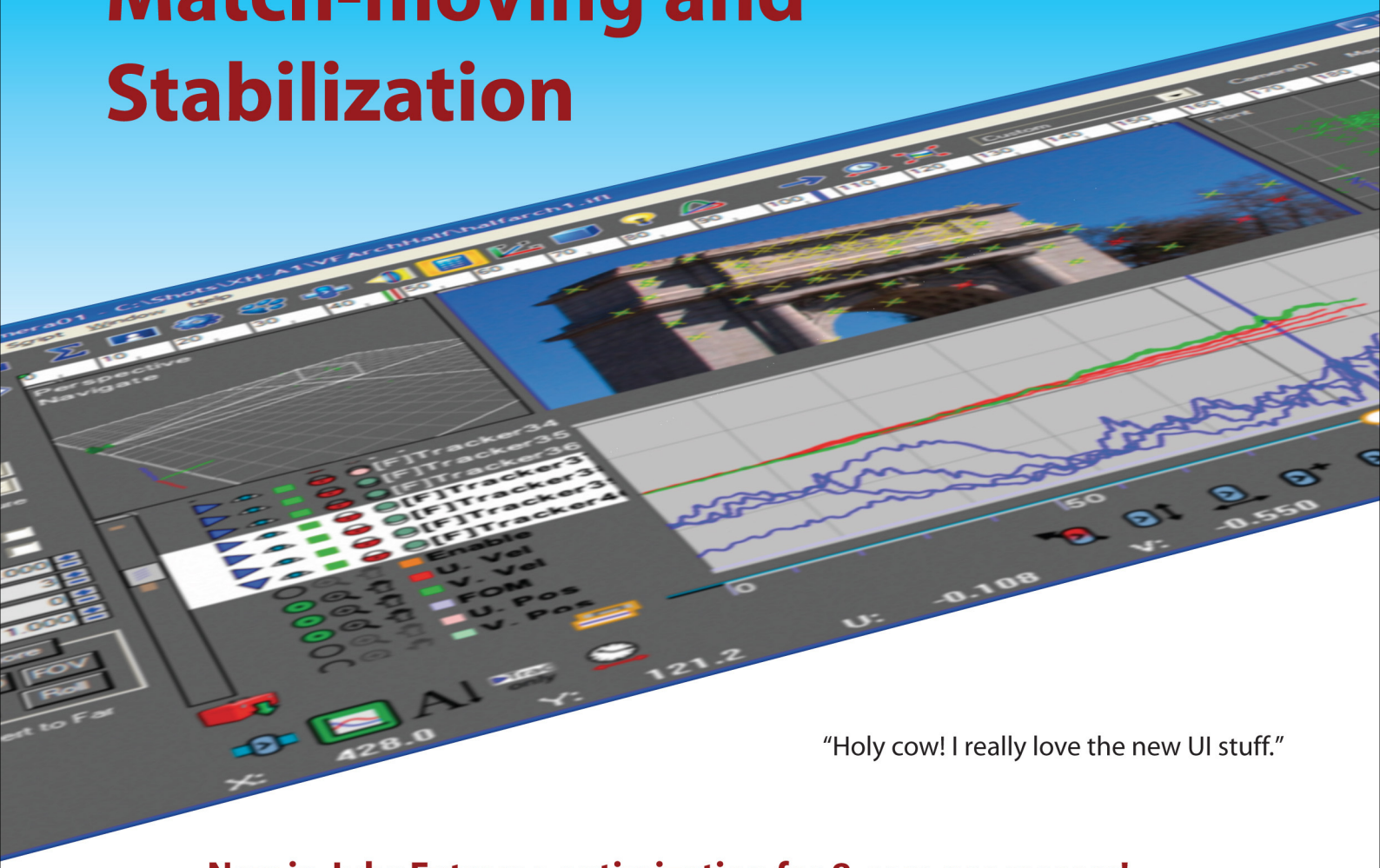
3D is definitely going to replace a large part of the product photography and filming. Gaming will also take more and more advantage of HDR. Games, TV, advertising, information - it will all slowly merge into one medium that you can reach by phone, screen or computer... therefore the content needs to be as realistic as possible. Can you imagine visiting *Second Life* without seeing a difference between real and second life? HDR can certainly help to give all these environments a hyper realistic feel. Many thanks!

Lightfield : Q-spheres.com
CG artist : David Drese (still-cg.com)

Jo Van Hove
For more information please visit:
http://www.q-spheres.com
Or contact:
jo.vanhove@q-spheres.com
Article courtesy: Tom Greenway

SynthEyes 2008

Match-moving and Stabilization



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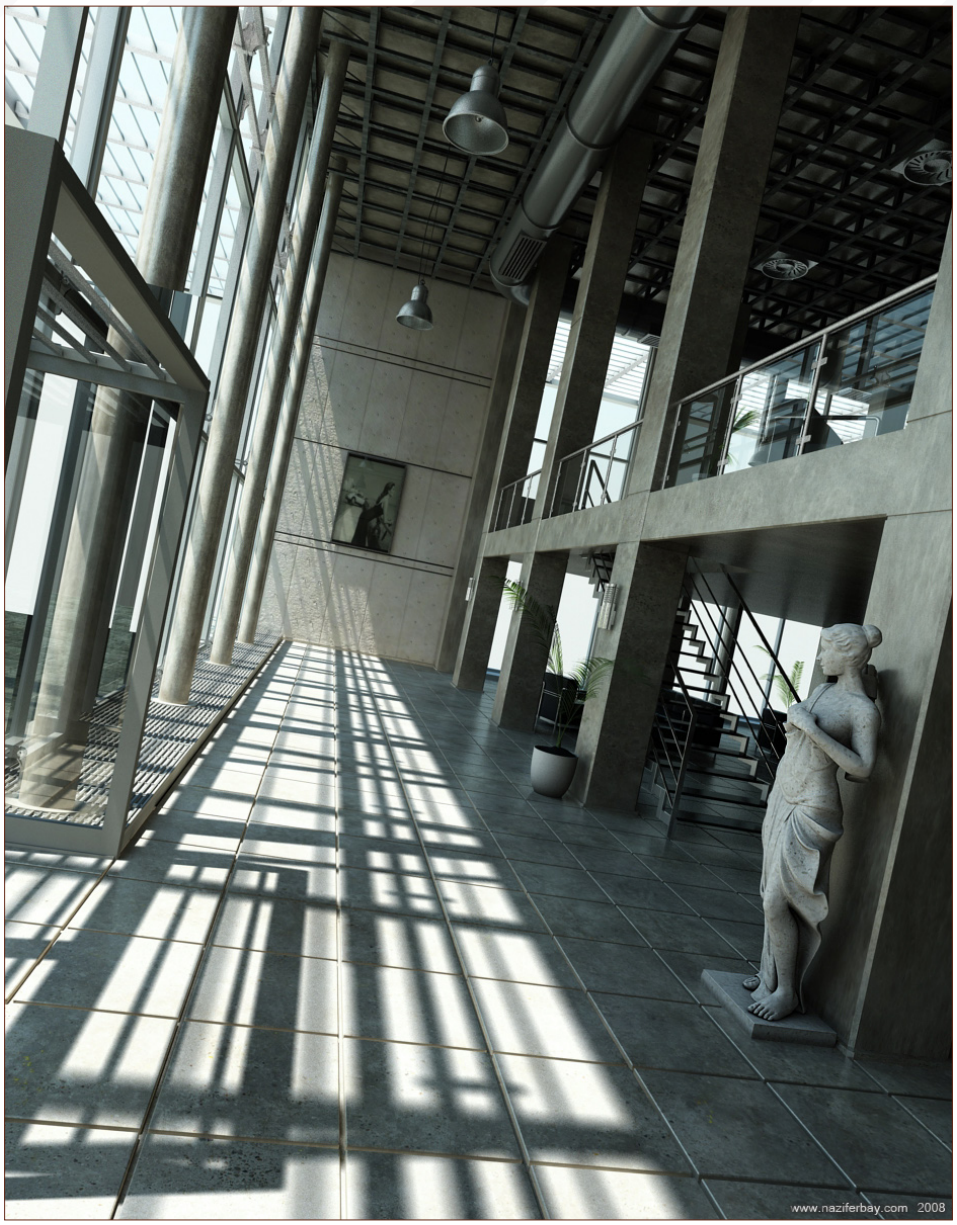

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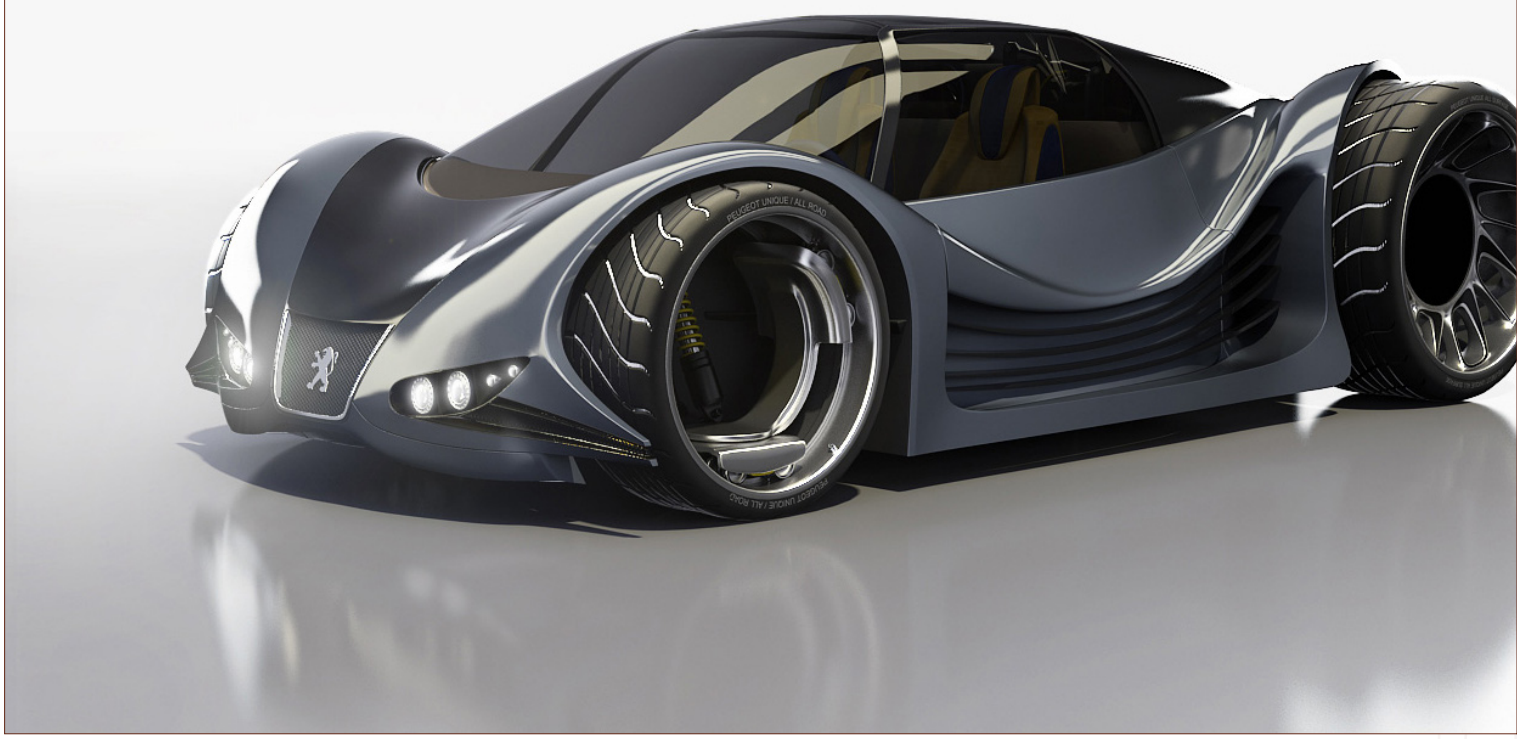

AUDI BAVARO (CONCEPT)

Ciprian Andrus

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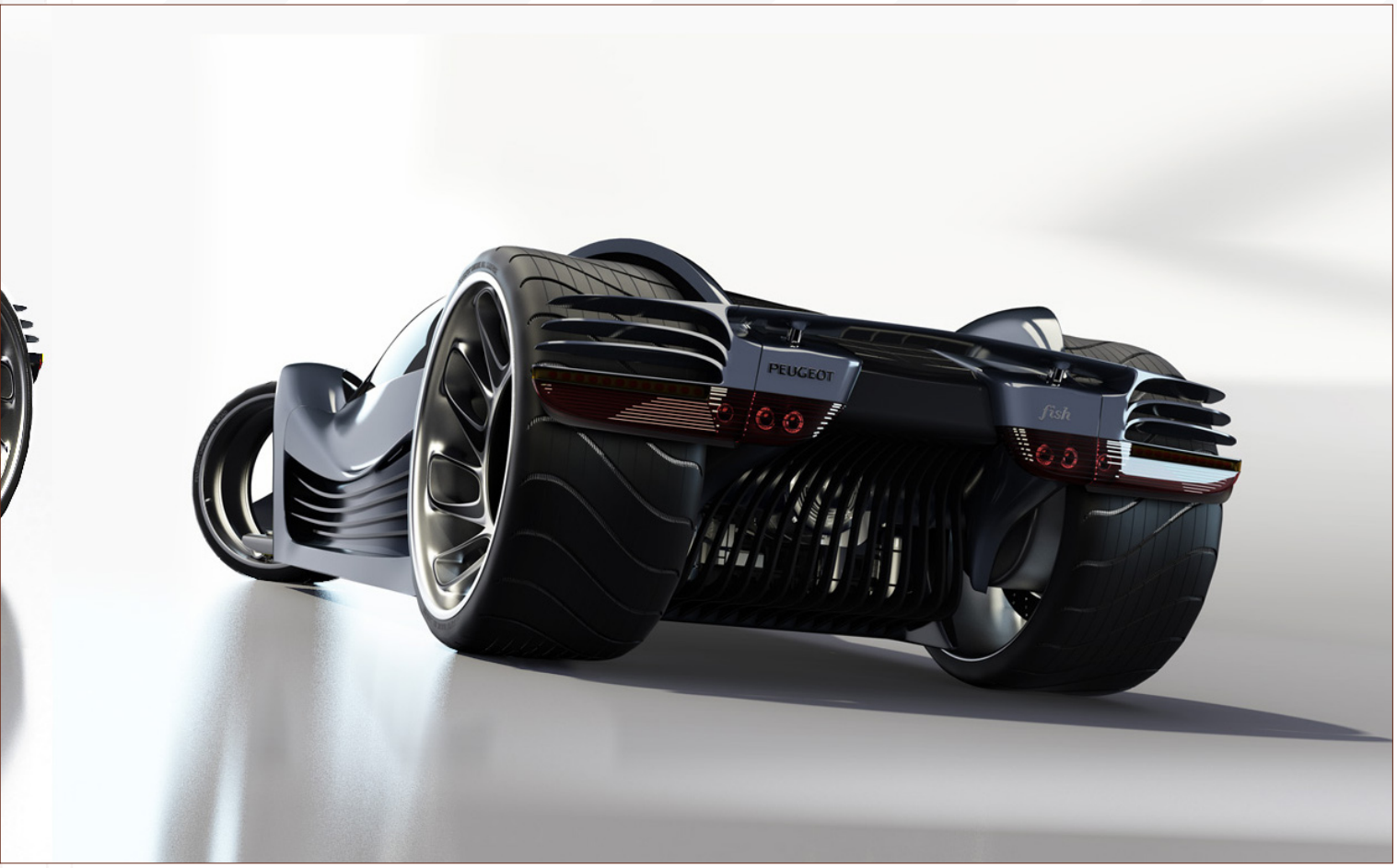
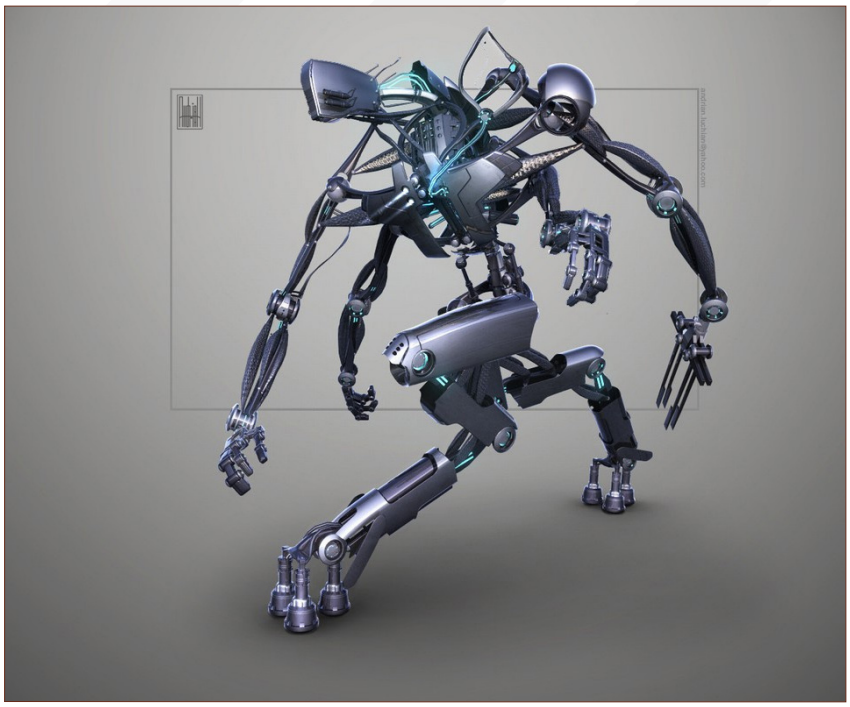
/gallery/

the_cipriany@yahoo.com



PROPELINI

iLive (Kovalchuk Yuriy)
liveinlive@live.nl



POLYMERIC DROID

Andrian Luchian

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PRO CUTTER

Valentin Yovchev

http://spybg.com

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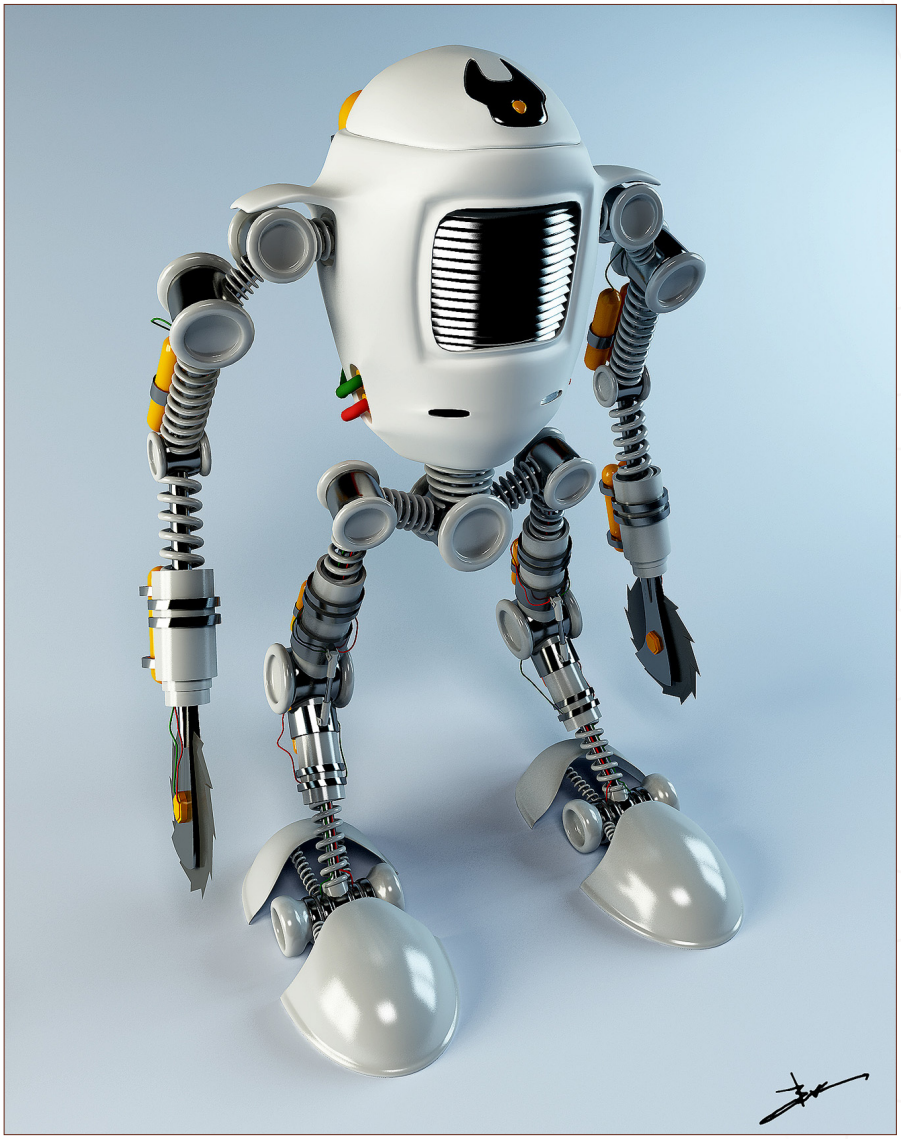


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Creating a Complete Scene From Concept to Render

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The schedule is as follows:

Issue 037 September 2008

Part 1: Importance of Reference

The series will begin with a look at the gathering and importance of reference material, and then transposing these into some concept sketches and a concept / production painting.

Issue 037 September 2008

Part 2: Modelling Overview

This chapter will go on to deal with a general modelling overview, which will be non-software specific, and then follow with a look at Photoshop and some general preparation of textures.

Issue 038 October 2008

Part 3: Preparing the Textures

This chapter will focus on Photoshop and more specifically, the job of preparing textures, including painting out seams and making images tileable.

Issue 039 November 2008

Part 4: Mapping

This chapter will focus on the mapping and unwrapping of your scene

Issue 040 December 2008

Part 5: Texturing Principles

This chapter will focus on texturing principles and will cover texture resolution, bump specular and normal maps along with combining textures. It will also cover using masks and adding dirt and grime

Issue 041 January 2009

Part 6: Lighting & Rendering

The final chapter will discuss lighting and rendering techniques and show how a simple lighting rig can be set up, along with different render passes ready for a final composite in Photoshop.

AGED & WEATHERED ENVIRONMENT

CREATING A COMPLETE SCENE FROM CONCEPT TO RENDER

PART 2: MODELLING OVERVIEW

Fig.01

INTRODUCTION

This month we will look at a general modelling overview and some of the techniques that can be applied universally across a number of 3D packages. I shall address some of the ways in which certain aspects of the scene can be created and outline some of the common tools that are used. Leading on from this I will look at how Photoshop can be used to prepare images for a 3D application and deal with some of the issues that are raised.

MODELLING

When starting to build a 3D environment it is a good idea to look at the concept art or drawing sheets for a few minutes and try to assess what shapes and forms make up each component in the scene. For example, in this case we can see that the buildings, balconies and their supports are essentially boxes, whilst the tower is cylindrical. The fish head is a little more complex, but can still be conceived as half a tube with a narrower top (**Fig.01**). The floor and walls are obviously boxes and can be made from said primitives. The tower walkway could also be made from a box and the canopy from half a tube etc.

First of all we will look at one of the most prominent components in the scene: the foreground tower. Now this could have been made from a simple cylinder, with various edges moved to create the curvature and then the canopy and struts added as separate objects. However an efficient way of quickly establishing much of the final shape is by using the line tool followed by a Lathe modifier. In **Fig.02** you can see in the top viewport that the silhouette, or outer edge of the tower, has been drawn using the line tool. You can see that it is made up of nineteen vertices and the panel on the right shows the sub-object selection with the vertex mode highlighted in yellow. Notice that the two inner verts are parallel, which is important otherwise when you apply a Lathe a hole will appear in the top. Here you can modify the shape of the line by manipulating each vertex as well as adding or subtracting the total number along the spline.

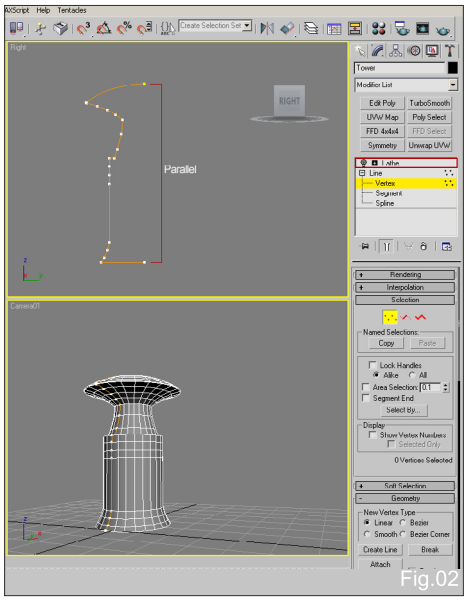

Fig.02

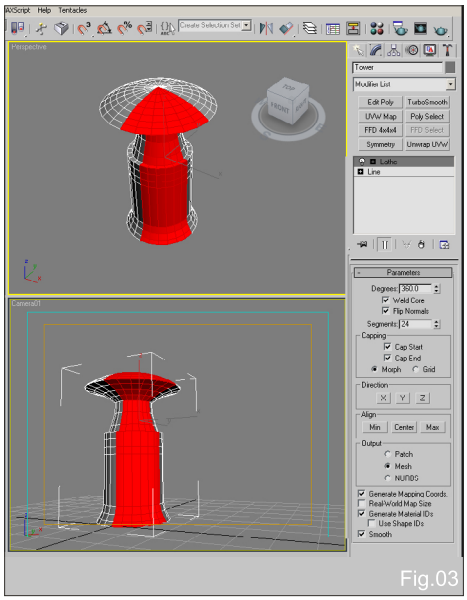
Fig.03

When the shape is satisfactory then the Lathe modifier can be applied (outlined in red), the result of which can be seen in the lower viewport. You will notice that the original spline is still visible here in orange.

Now because the tower is symmetrical, we can go ahead and finish adding the details to just one quarter of it. When this is done we can duplicate this piece three times and rotate each section by 90 degrees - thus creating a complete 360 degree object. In order to do this we need to consider how the details on the tower can be divided into four equal sections and therefore make sure we specify enough segments during the Lathing. In **Fig.03** you

can see in the right panel that there are 24 segments which divide into four equal parts of six segments each (highlighted in red in the viewports).

We can now delete the remaining parts of the tower and add the detail to this single quarter. In **Fig.04** you can see the final quarter with the balcony supports, windows and metal panelling. All of these details were created from various extrusions which can be seen in **Fig.05**. With this done we can then copy and rotate this piece 90 degrees, specifying the number of duplicates to three, which will complete the tower. The balcony, canopy struts and vertical panels at the base can be made as separate objects.

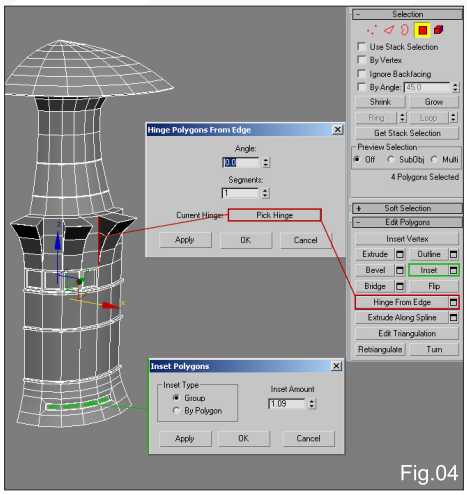

Fig.04

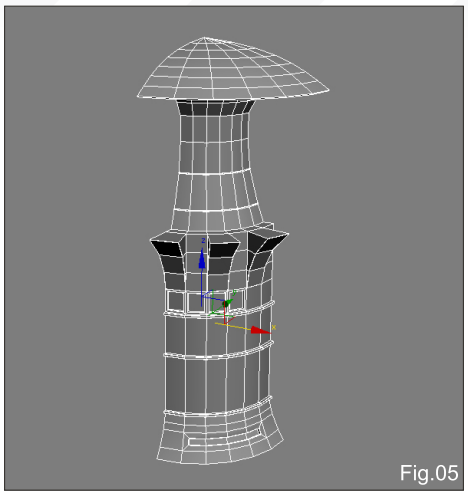
Fig.05

For the purposes of texturing it is sometimes worth attaching separate pieces of geometry into single objects in order to restrict them to a single texture. In **Fig06** you can see that I have attached the vertical panels and canopy struts to the tower (purple section on the right) and made a single mesh which will only use one texture. The red geometry on the left shows that although these sections are attached, they exist as individual elements in sub-object mode. Therefore the tower comprises of three meshes altogether: tower, balcony floor and circular railings (green object), each with their own material / texture.

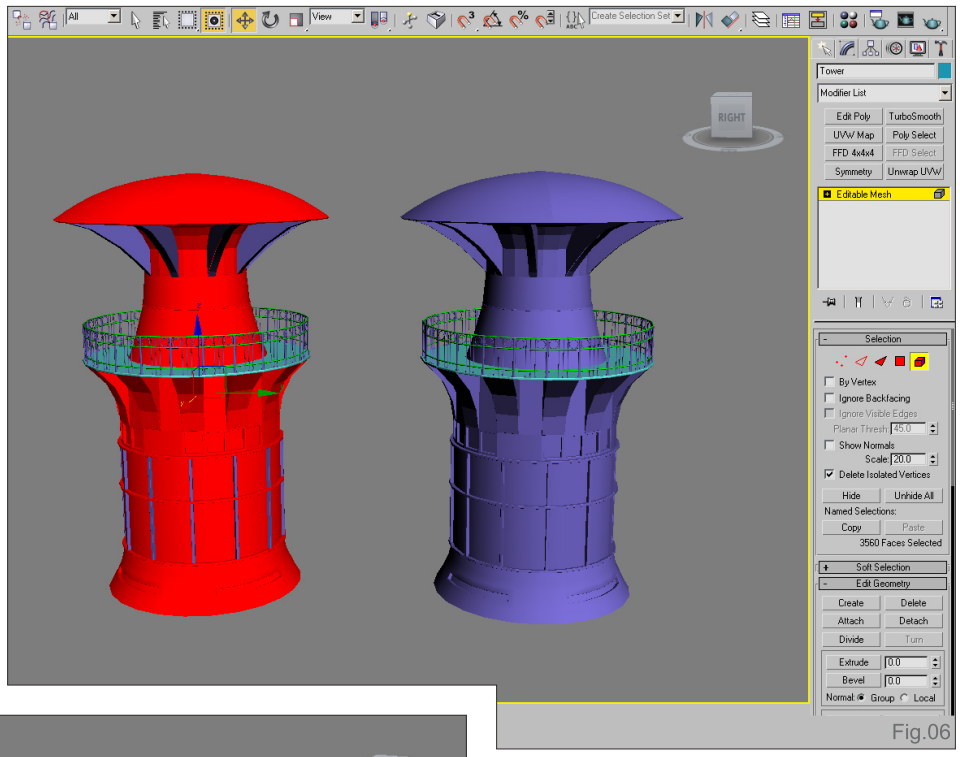

Fig.06

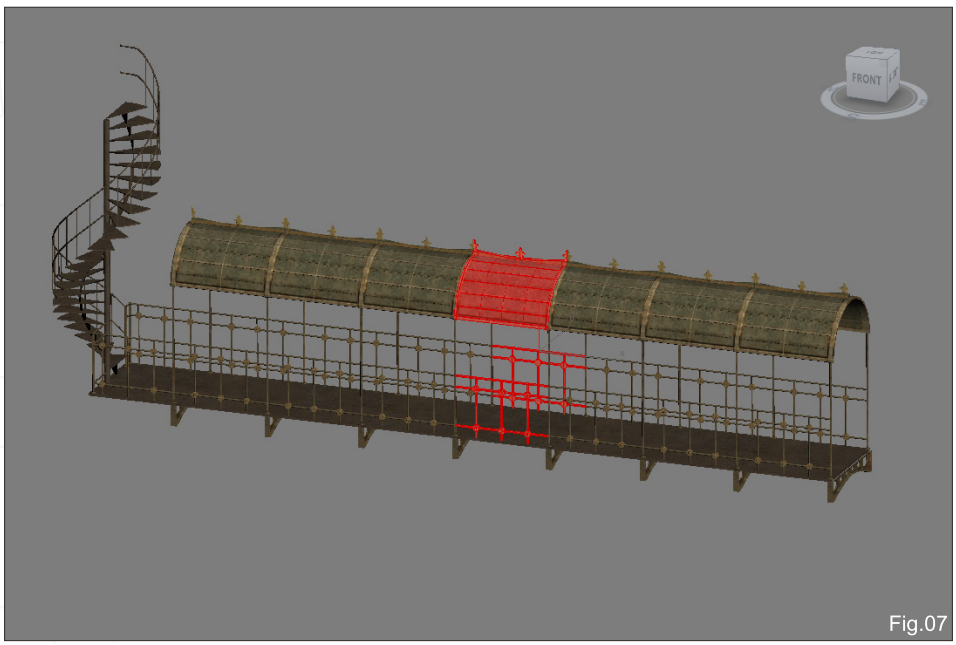

Fig.07

The main reason that the balcony floor and railings were not attached to the tower is that they use tileable textures and hence do not need to be unwrapped.

One of the more detailed parts of the scene was the tower walkway that bridges the gap between the tower and the main balcony running around the wall. This is made up of a number of repeated sections, as shown in **Fig.07**. You can see here that the entire canopy and railing structure is a repeat of the section highlighted in red. The floor uses a tileable texture, as did the tower balcony and so this remains a separate object - but the rest of the walkway uses

one texture. As such, many of these various components have been attached into a single mesh but remain as elements in sub-object mode. If texture space is an issue and identical, geometric "units" need to be unwrapped, then it is worth mapping a single section before duplicating it. The reason is that a duplicated mesh retains its mapping co-ordinates and means that any number of copies will share the same texture space. This saves mapping each piece individually and means that for an entire section of seven pieces (**Fig.08**) we only need to unwrap a small part of the final mesh. You can see here that the whole canopy of seven sections is restricted to the upper left corner of the texture in the form of a single piece. The downside of this is that any detail is also repeated across the entire mesh and therefore creates an unrealistic symmetry in the form of tileable patterns (eg: blue spot). The way around this problem is to minimize any obvious patterns and then apply a composite map or an "overlay" in a different mapping channel. You may also notice here that the texture includes the small circular details on the railings (a) along with the arched floor supports (b).

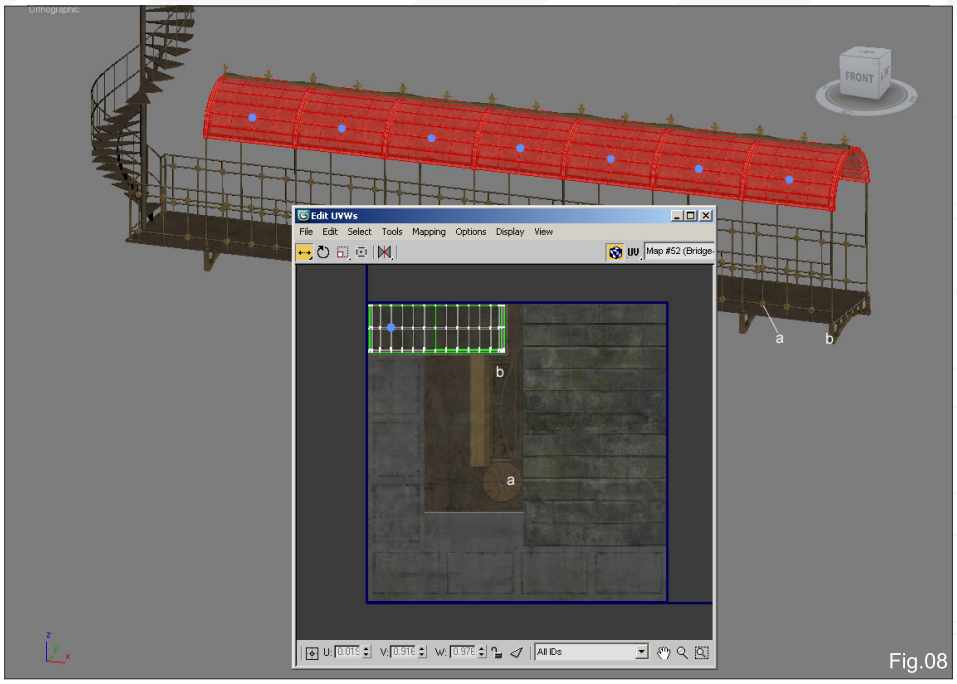

Fig.08

This method of unwrapping and texturing components was also used on the tower to save texture space. When rendering a still it is always worth considering which parts of the scene will be most visible and thus focusing attention on these areas. There is no point spending hours on a high res texture if it is in the background and barely visible!

Another key focal point in the scene was the fish head, which is probably the most complex shape overall. There was no strict formula to follow with this. It was a case of manipulating a basic Tube by deleting one half and converting it into an Editable Poly.

In **Fig.09** you can see the progression from the original shape through to the final version. You can see from the extra geometry that the version on the right has been smoothed. This particular mesh needed unwrapping, but fortunately it is possible to map geometry before smoothing without losing the co-ordinates. Therefore when the low poly version was finished I then mapped / unwrapped the model and applied smoothing afterwards (**Fig.10**). You can see that TurboSmooth has been applied after the model has been unwrapped and so there are far less polygons to consider when texturing. This saves time and makes the whole process less arduous.

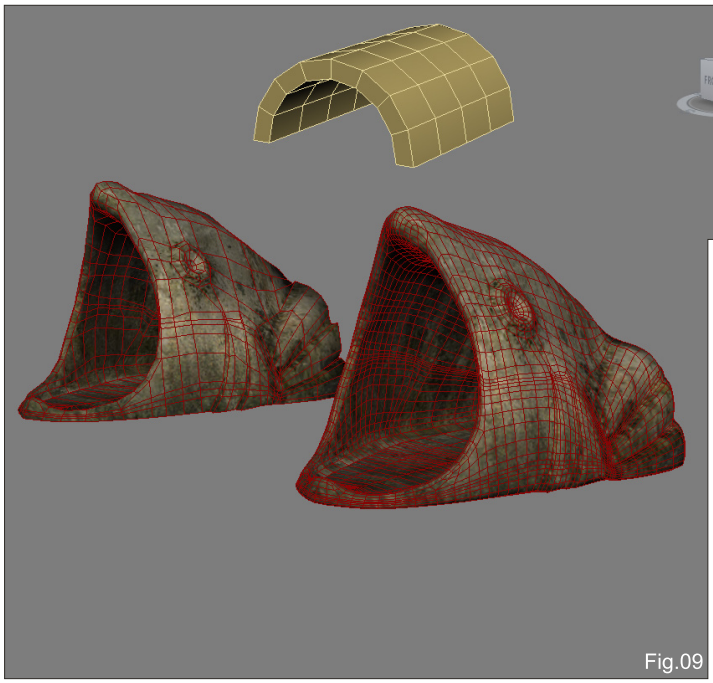
Fig.09

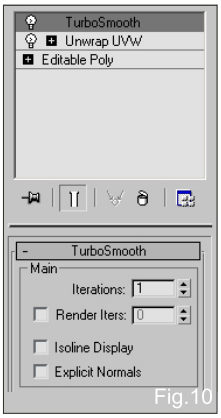

Fig.10

The actual character that can be seen on the wall was constructed from a shallow box that was then converted to an Editable Poly. The verts were then transformed to create the general shape and then further subdivisions were added to refine it.

Selecting Photos and Initial Preparation

Before beginning the texturing it is necessary to search for the kinds of images that will suit the kind of render one is after. This generally comes down to finding the right materials, i.e. stone or concrete in this case, and ensuring they are a

suitable resolution and scale. Because some textures can be tiled they can in fact be smaller in size, but for areas such as the large wall it is important that the textures are reasonably high res. The scale of the image is also important as this dictates whether tiling is necessary and the extent to which this is employed. In **Fig.11** for example, imagine that the height of the image is the actual height of a wall compared to the figure. If the stones were an average size then this photo would need to be tiled far more (around three times) than the right version where the scale is larger. It is good practice to make textures tileable, as this means there is more freedom to experiment in the 3D package. No photo is perfectly tileable and so requires some editing in order to make them useable. In **Fig.12** you can see an image in the bottom

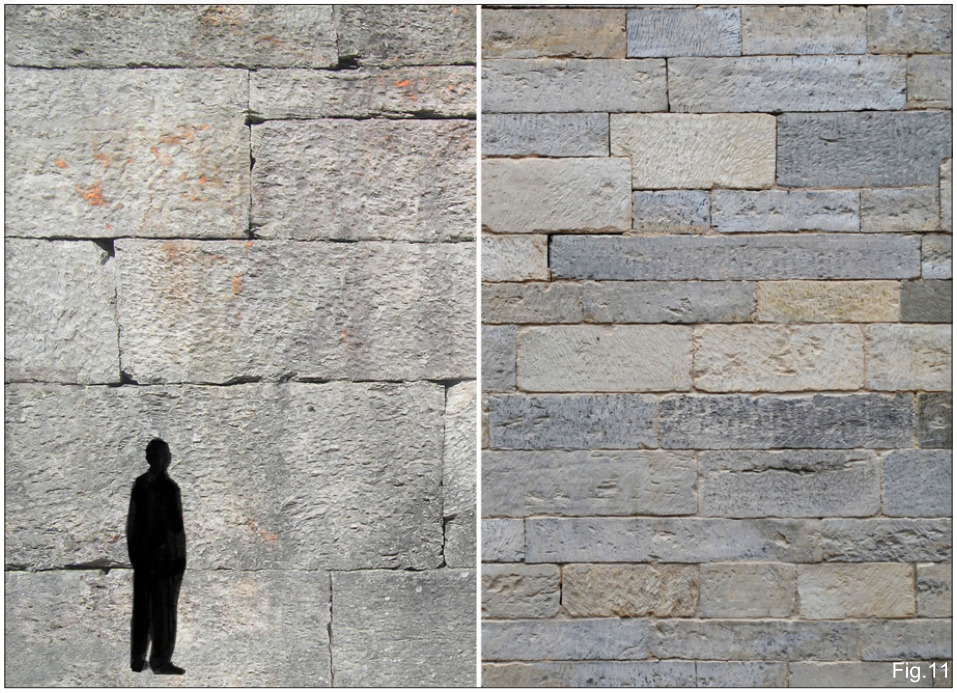
Fig.11

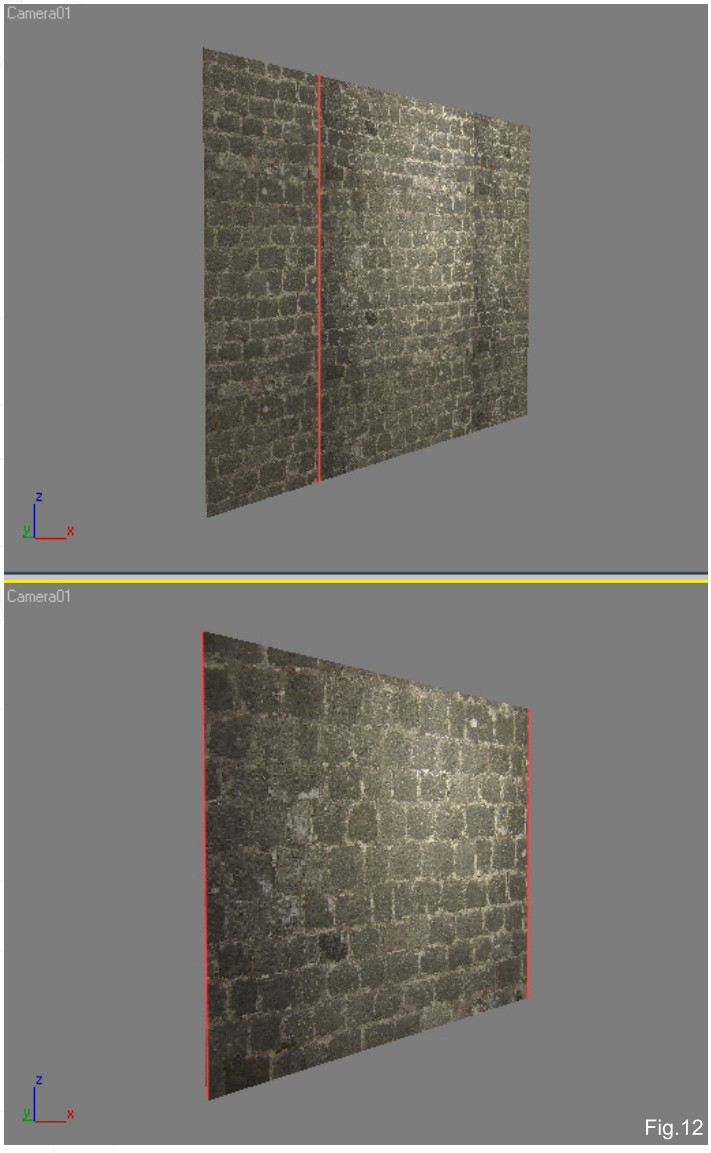

Fig.12

viewport that is not tiled at all and above it, the same image tiled by a value of two. You can already see a problem in the form of a dark vertical line which constitutes the two adjacent vertical edges of the photo (red lines). This is because each edge is different and so we need to use the Offset Filter in Photoshop to solve this issue; something we will look at in Part 3 of this tutorial. This filter will alleviate the problem of visible seams, but another issue to consider is any distinguishable feature that may be conspicuous when the texture is tiled. In **Fig.13** you can see a texture on the left that has been made tileable, but there is one dark-orange brick that is very noticeable. This needs to be edited so that it blends in better, however this will not eradicate the problem entirely. It is always a battle of “Tiling v’s Detail” in the end. The more an image is tiled, the more apparent tileable patterns become. On the right we can see the same image tiled four times and we can see that even if we had blended in the orange brick, we would now be more aware of the three beige bricks above it in the form of a broken line, as well as the dark vertical band that runs through next to them.

Obviously we cannot keep tiling the image in order to remove all discernable patterns otherwise we would reduce the texture to something very bland indeed, but at least this highlights some of the issues to consider when selecting and preparing photos.

Some of the main things to consider when choosing photos for texturing are:

1. Scale and resolution
2. How close will they be to the camera?
3. Area / size of geometry that uses them.
4. Do they need to be tiled and by how much?

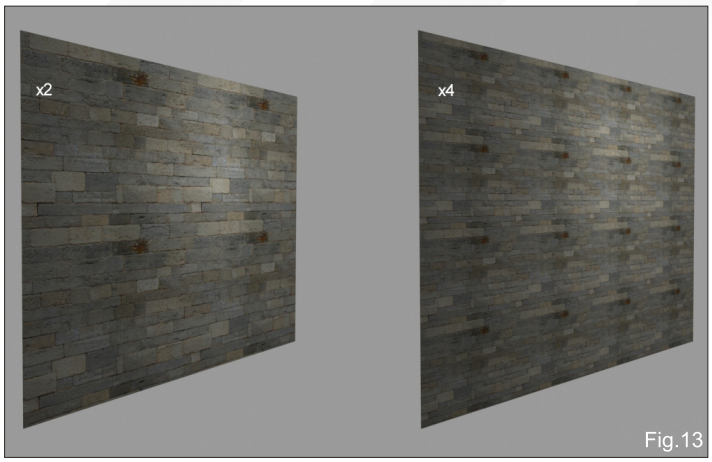

Fig.13

All these factors determine how you choose your photos, but one other important aspect to consider is the lighting condition of the image. This is something that can be altered within Photoshop, but it is far better to use an image that shows a soft, general ambient light than one that shows strong highlights and shadows, as this is something that will be the reserve of the 3D package. In **Fig.14** you can see a bad example at the top and a good example below. The top image has a strong highlight in the upper right corner and this would cause a very obvious seam even if the stonework matched up. It is a good rule of thumb to avoid using images where the lighting is not evenly distributed, otherwise your workload will increase.

When you have chosen a suitable photo, tiled it and removed any obvious detail then you will end up with something similar to the bottom example. You can see this has a good "overall" consistency, with evenly coloured stones and no strong shadows. The balance is good without it being too bland and symmetrical, but even when it is ready to be tiled in our 3D package there will be some evidence of a pattern.

This is where a Composite map comes in and helps disguise the problem. In **Fig.15** you can see the original map in the top left corner (1). Below this is the same map tiled by a value of 2.0 (2). What we now do is take

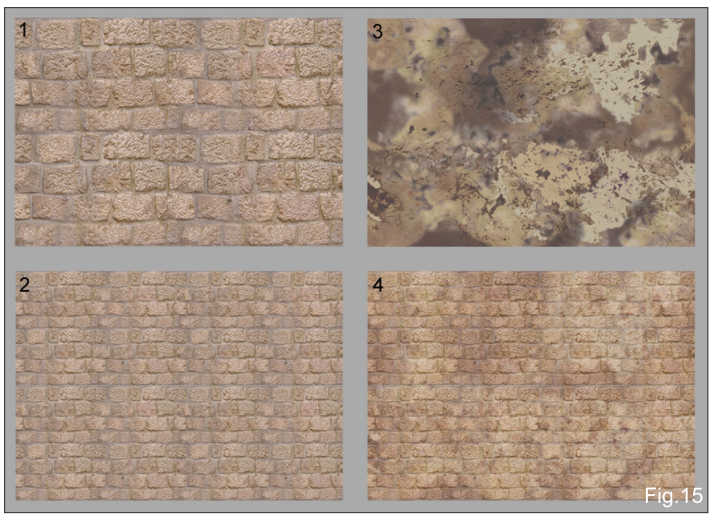

Fig.15


Fig.14

another texture, which is not tiled (3), and apply it over the top of the image, setting the blending mode to Soft Light or Overlay. The texture in the bottom right (4) shows the result: the "overlay" has helped add a more natural and asymmetrical look to the wall and helped hide the tiling.

In Part 3 we will go on to deal with how to solve tiling problems using the Offset Filter as well as look at the tools to help solve some of the issues mentioned above. We will also show how photos can be combined successfully as texture maps and some of the techniques used.

AGED & WEATHERED ENVIRONMENT

CREATING A COMPLETE SCENE FROM CONCEPT TO RENDER

PART 2: MODELLING OVERVIEW

RICHARD TILBURY

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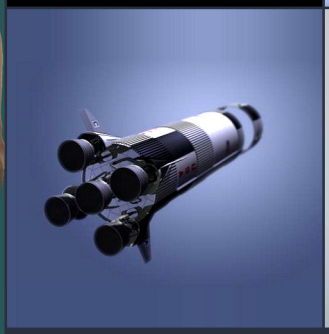


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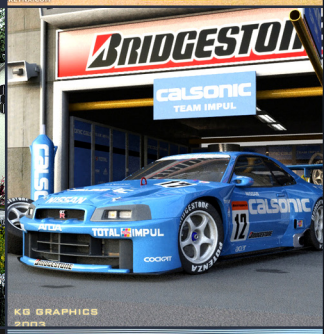



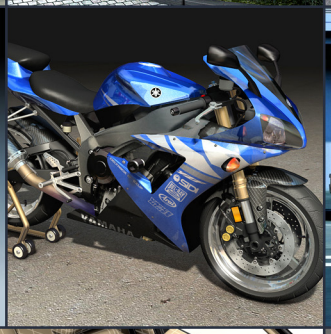
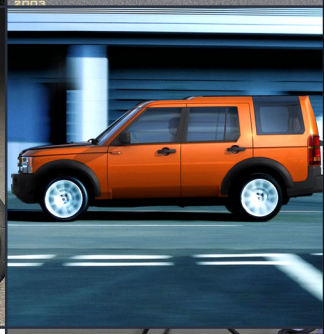

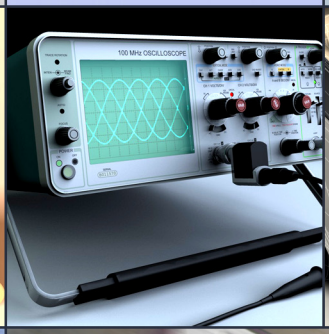




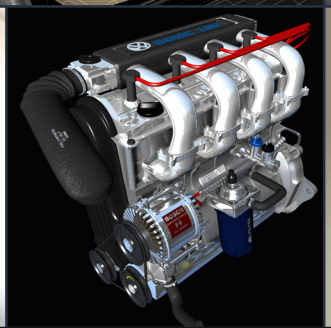


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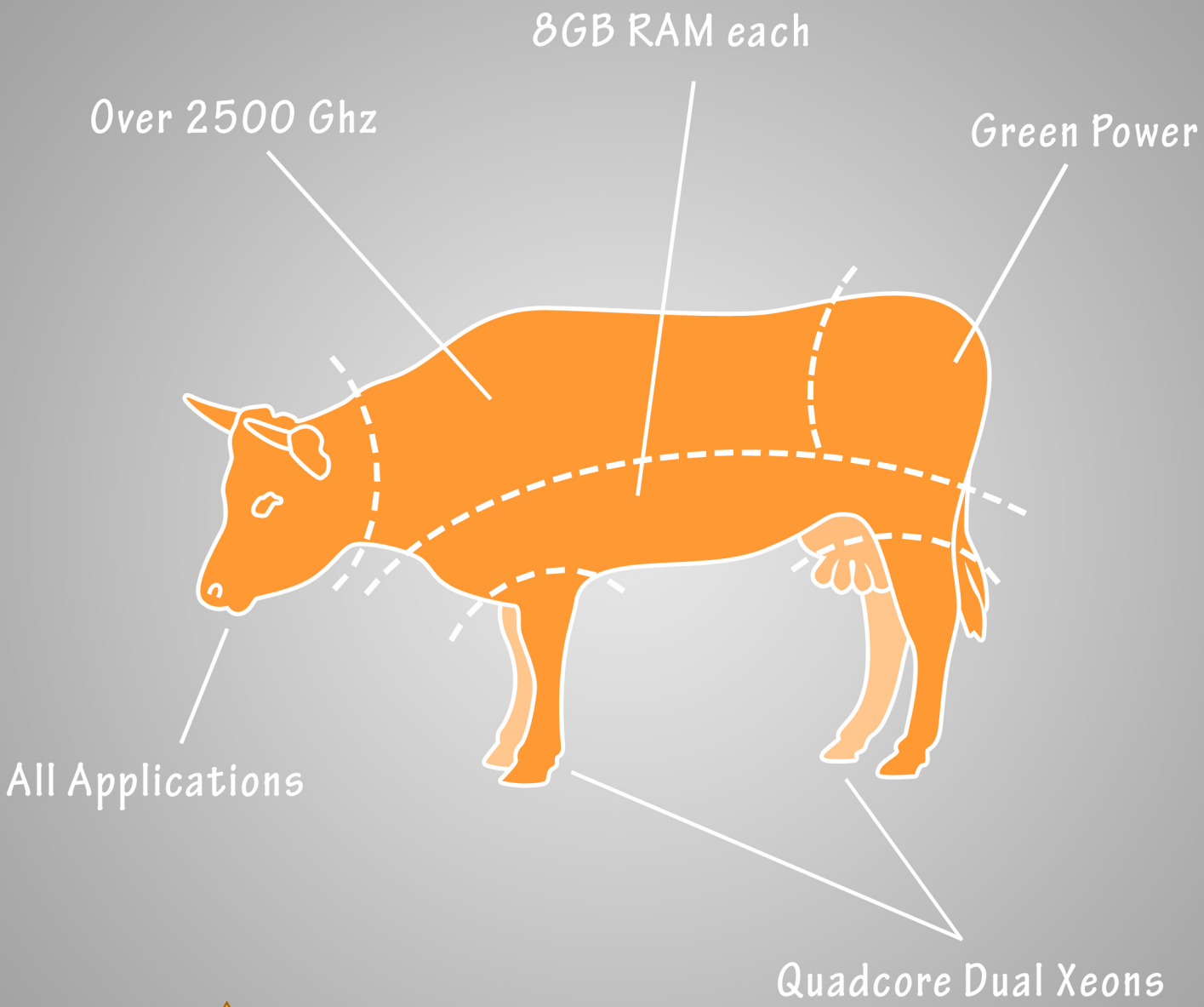

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PIRATES
PAST AND FUTURE

Welcome to the brand new Speed Sculpting section of 3DCreative magazine. Each month we will give two talented ZBrush sculptors a brief and a base mesh from which they are to interpret and speedily sculpt a model within a suggested time. Here we will show the stages of creation of their “speed sculpts” in the form of mini tutorials. You will often find free movies to accompany these tutorials, and we hope that this new series will be successful and thrive for many months to come!

This month our two skilled speed sculptors are **Jesse Sandifer** and **Alex Oliver**, who are tackling the brief: **Pirates – Past & Future**

If you’d like to follow along with these tutorials, we have provided the same free base mesh for you that we also gave to these two artists for their own speed sculpts. Download your own base mesh from the **Free Resources** logo below and get sculpting! Enjoy!

“....I REALISED THAT THERE WERE MANY DIFFERENT WAYS TO INTERPRET A PIRATE: BULKY, FAT, SKINNY, LANKY, CRAZY/FUNNY FACES, WITH FUN PROPS LIKE SWORDS, EYE PATCHES, HATS, BANDANNAS, RAGGED CLOTHES, ETC”

SPEED SCULPTING

JESSE SANDIFER

CREATED IN:

ZBrush

INTRODUCTION

For this speed sculpting tutorial, we were provided with a pretty fun brief: Pirates – Past & Future. With any sculpt I do, I find it highly important to work out what I'm going to sculpt before I even open ZBrush. I just sit down with some paper and start doing some simple concept sketches (**Fig.01a – b**). Once I get a general idea, I then gather some references through Google and from any anatomy books I have at hand.

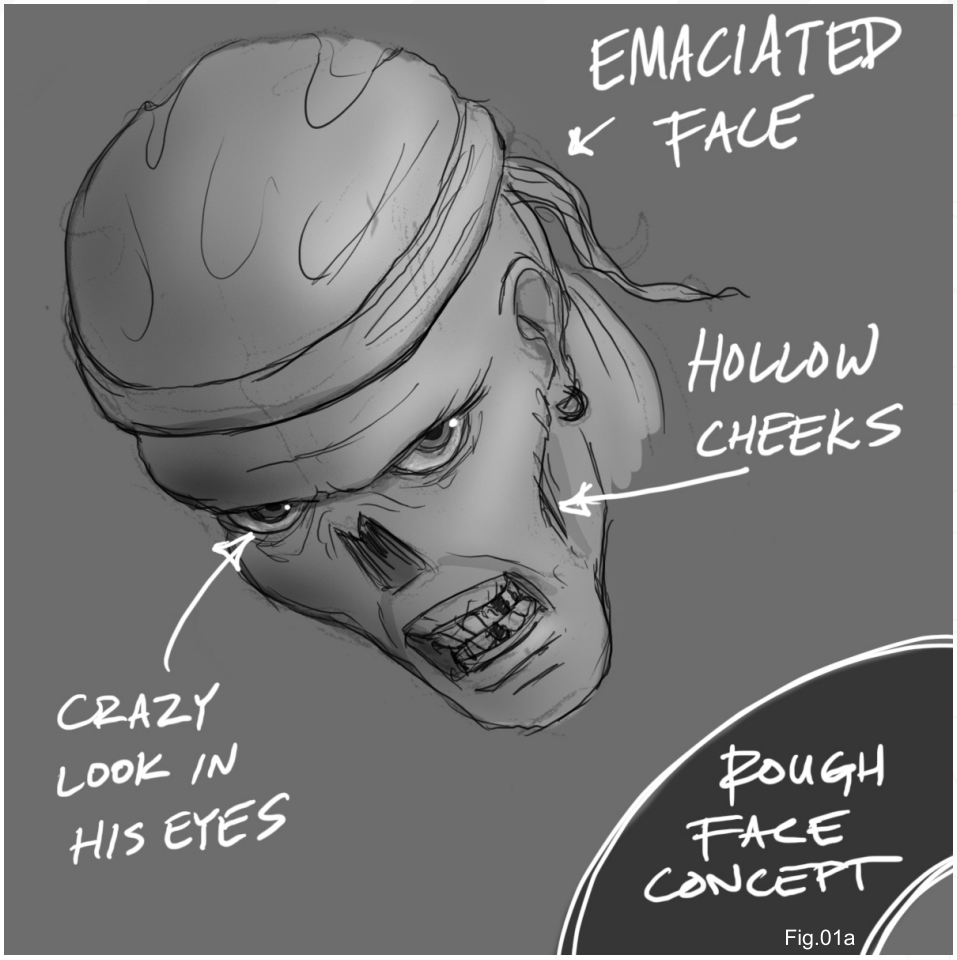

Fig.01a

CONCEPT

When I started brainstorming for this sculpting tutorial, I realised that there were many different ways to interpret a pirate: bulky, fat, skinny, lanky, crazy/funny faces, with fun props like swords, eye patches, hats, bandannas, ragged clothes, etc. So with my initial concept I really had to think about what I wanted my subject to be. I had never done an emaciated or skinny type of sculpt before, so I thought I'd go with that. I knew I wanted a little bit of attitude with his demeanour, and I subconsciously thought of Gollum from *The Lord of the Rings* and how possessive he was with the ring. I wanted to get that same sort of feel with my character, and so I went with the concept of a pirate holding his treasure chest in his arms. I then thought I could give him a creepy "turned back" pose, so protecting the chest from anyone who might be thinking of taking it from him.

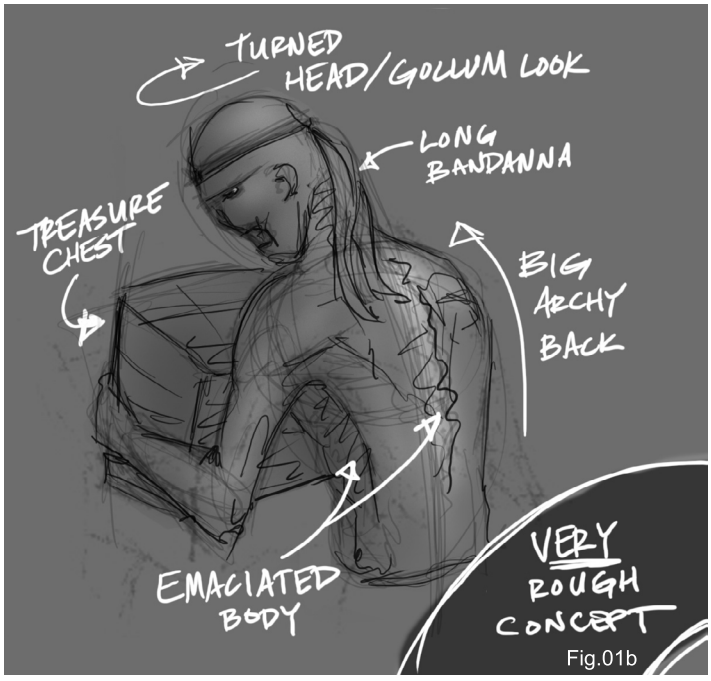

Fig.01b

I initially thought of giving the character a flat nose, no visible lips look with exposed teeth, but after starting the sculpt I ran into a model that was popular in the 3DTotal forums, by LeChuck. I didn't want to seem like I was copying his design, and so I decided to take his face in a different direction, complete with nose and lips (you'll see this change of design direction during the first video, available for download with this tutorial).

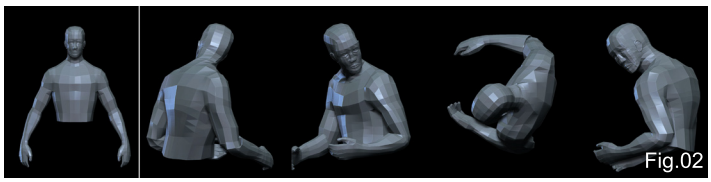
Fig.02

SPEED SCULPTING!

So to begin the actual sculpting session, I split up the mesh into poly groups so I can isolate different parts whenever I need to. I go with groups for hands, arms, the torso and his head. I then pose my sculpt

using the Transpose Master. This is so I develop the correct emotion right off the bat. It really helps me to move when I have this established. A nice new feature in ZBrush is Poseable Symmetry which allows you to sculpt your mesh based on topology, and not on axes mirroring (**Fig.02**). This basically means you can have a posed model and if the topology of your mesh is identical from one side to the other, then ZBrush will symmetrically transfer your sculpt to both sides. It's important to remember that each level of subdivision will require that you activate Poseable Symmetry so it can calculate the topology for each step.

After I establish the pose and poseable symmetry, I start blocking in general forms and shapes. Anatomy knowledge plays a huge part in these speed sculpts, so knowing where muscles and bones go is very important. For this character, I knew I wanted him to be skinny, so the arms and waist need to be shaped accordingly. So using the Clay Tubes, Move, and Inflate brushes, I start doing large macro level strokes to lay in the muscle flow. I use the Move brush to push around the masses, the Inflate brush to bring out muscle chunks and superficial bone, and the Clay Tubes brush to lay in muscle striation flow and the small muscles like abs.

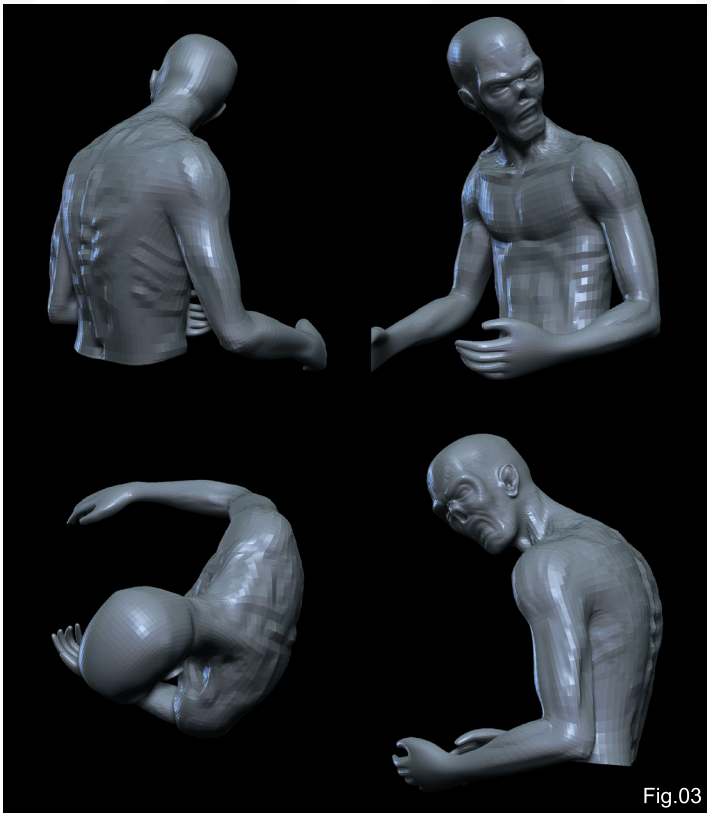
Fig.03


Fig.04

Once happy with the massing on one subdivision level, I then go onto the next and continue the same process. After this stage, I choose to move on to the face and start defining the bone structure and get the facial massing figured out. This can be the most exciting part of sculpting, because you can get your character's emotion to burst through if you get it right! I try to just focus on getting the major character, defining features of his face without worrying about details such as pores, fine wrinkles, etc., at this stage.

I'm about 45 minutes into the sculpting work at this point – 25 minutes of posing and 20 minutes of roughing in forms (**Fig.03**).

I go back to his body and bump up in iterations to focus on laying in more muscle and bone definition. I really have to battle the scapulae and vertebrae forms here because there is such exposure in the back with this kind of body type. I have to reference these areas, and doing this slows me down slightly. But the upside is that I get to learn a bit more about back structure (**Fig.04**).

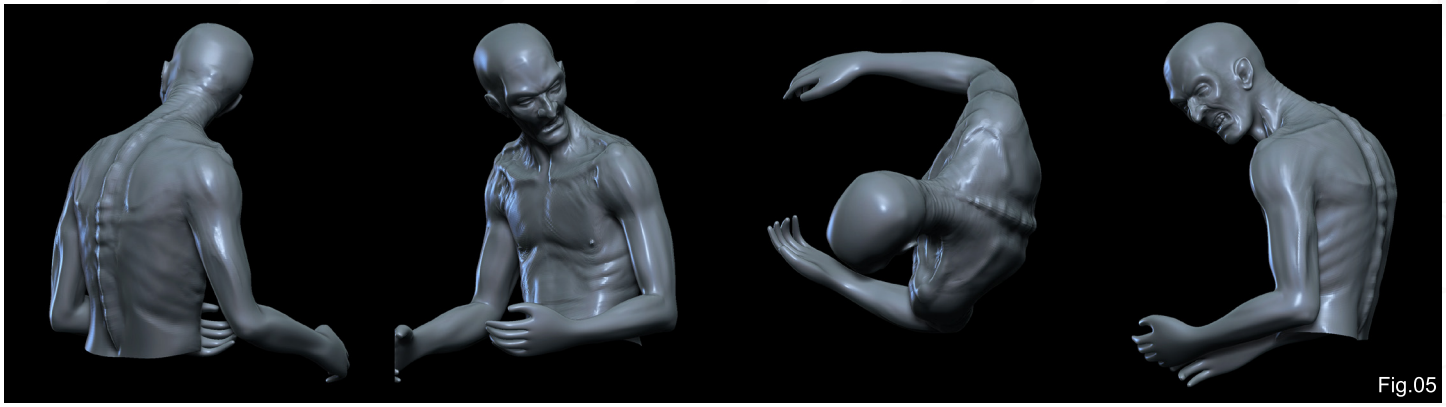
Fig.05

With the ribs in place I then start getting some easy wrinkles laid in with the Rake brush, and then give it a once over with the Smooth brush at about 30 percent, so as not to erase all of the Rake's work. I then go in and use the Slash 2 brush to slice in some tight skin wrinkles over the abs, since he's bending over a bit.

Here I'm at the 2.5 hour mark (**Fig.05**).

Free Movie:

To view the first part of the sculpting progress, you can download **Movie 01** at the end of this tutorial.

This next phase consists mainly of working on joint transition details, like the elbow wrinkles,

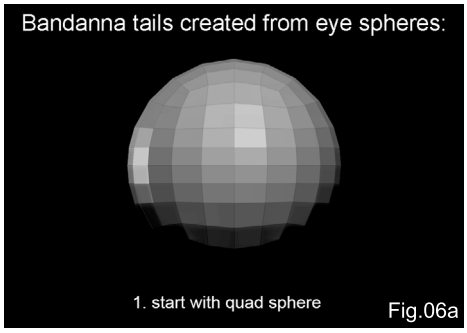

Fig.06a

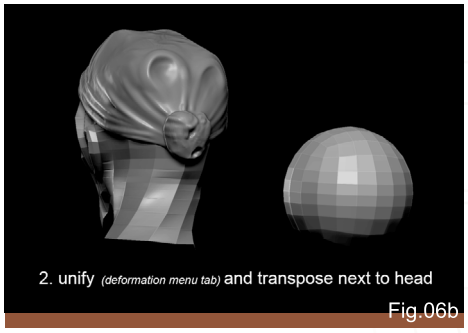

Fig.06b

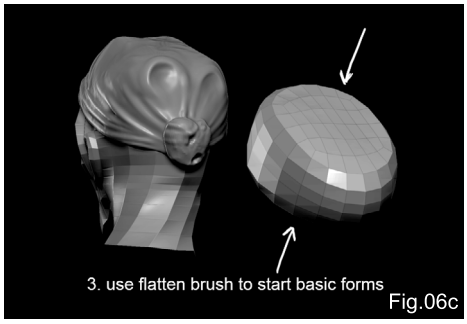

Fig.06c

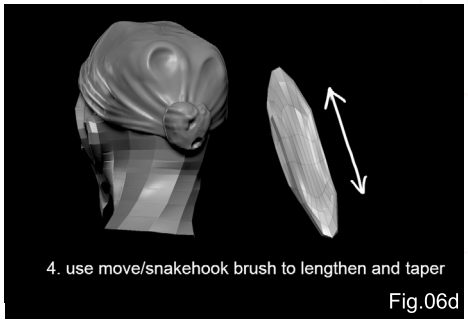

Fig.06d

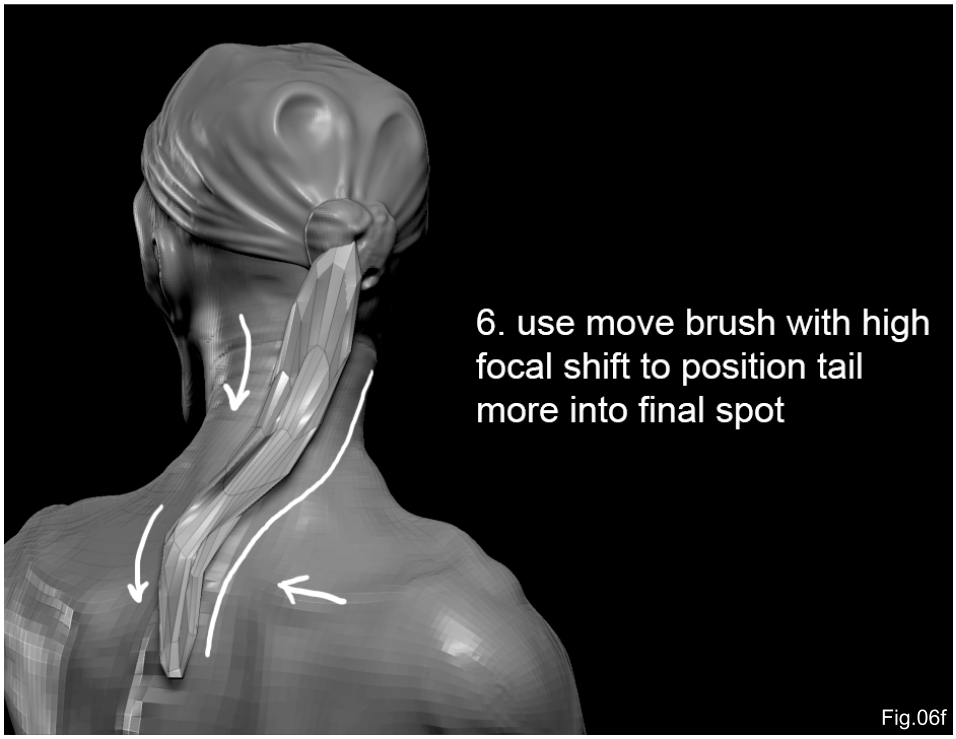

Fig.06f

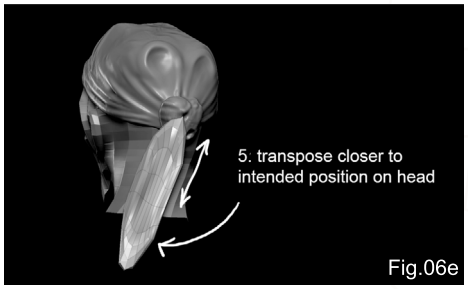

Fig.06e

and making sure muscles are connecting together correctly. With every subdivision level you go up to, you have to bring out a little more detail because it naturally gets smoothed in the subdivision process. With a skinny character such as this pirate, I didn't want too much to be smoothed out. I want him to have the right amount of wrinkles and folds, but not so much detail that I can't finish the sculpting in time! I also 'pop out' some of the veins in his arms using the Inflate brush and some smoothing.

It's now onto the part of the sculpting process that a lot of us dread: hands and fingers! I use the Transpose Master and proper masking in order to pose the fingers. It's then a matter of using the Clay, Inflate, and Clay Tubes brushes to start punching out the complex forms. This pirate of course needs bony hands, so it's more about how the phalanges punch through. I try not to spend too much on the hands because it's easy to get caught up in trying to make them perfect. In speed sculpting, it's crucial to make a clear suggestion of the concept; save the fine details for your free time! The faster you get, the more time you'll have for details anyway.

I need to move onto the pirate's bandanna next, so I mask off part of his head and append it into a new Subtool (this is 'illegal' for the Threedy Speed Sculpting challenges, but for the sake of this tutorial I was graciously instructed to create props with freedom!). I then use the Inflate brush to stroke out the wrinkles and folds that come about in a bandanna which has been tied around a head (**Fig.06a – k**). I then bring in two spheres, typically used for eyeballs, and made bandanna tails out of them! This requires a bit of scaling, flattening and stretching in order to get them in the initial state, but then I just use the Move brush with a high focal shift to give them some gravity effect across the neck and shoulders. I then use Inflate and Smooth to give them some folding and depth (**Fig.07 – 08**).

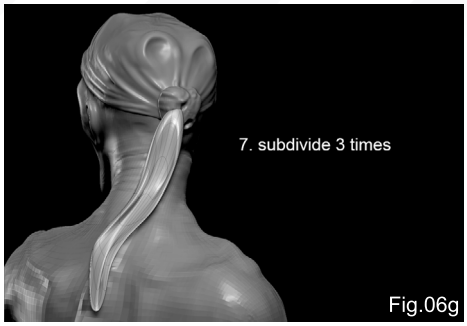

Fig.06g

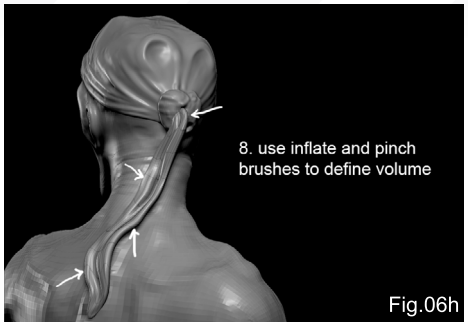

Fig.06h

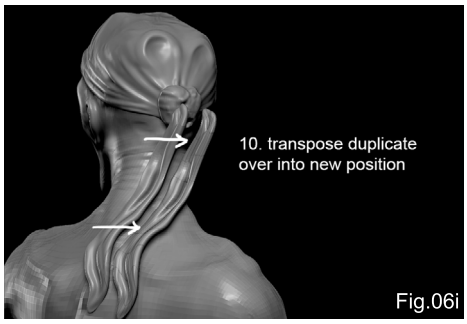

Fig.06i

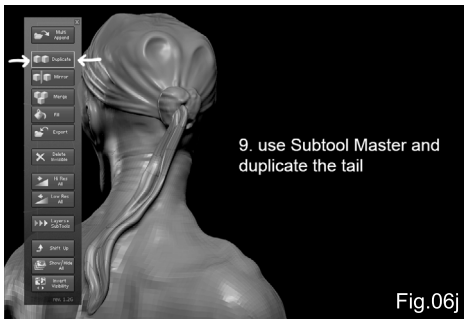

Fig.06j

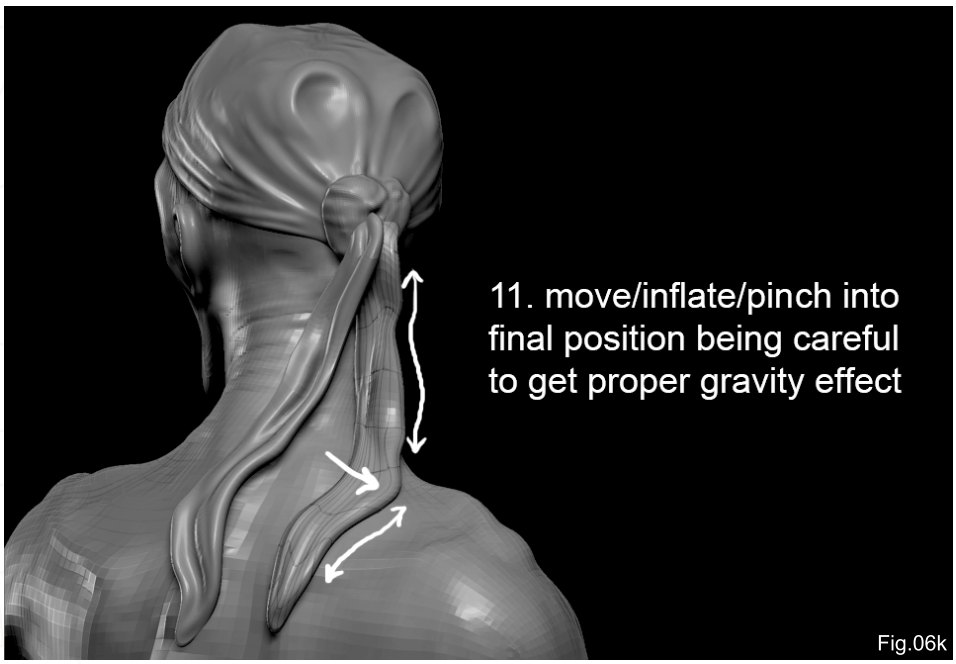

Fig.06k

FREE MOVIE:

To view the second part of the sculpting progress you can download **Movie 02** at the end of this tutorial.

Now it's time for the treasure chest to come to life, although I'm actually running short on time at this point and don't really have enough time to make it look natural and worn enough, so I simply focus on getting the wooden planks, leather straps, and lock in place. I then use an alpha of some wood as a mask, and then go and inflate in ZSub mode just a touch to cut in


Fig.07

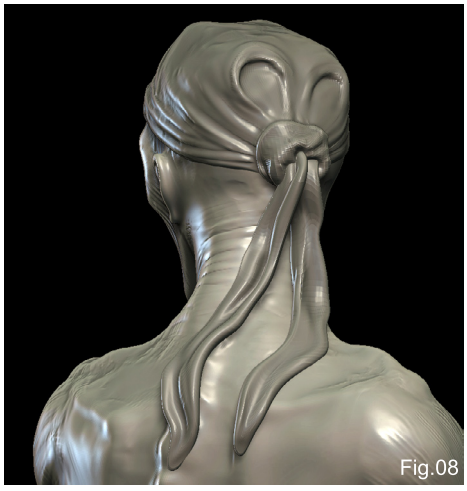
Fig.08

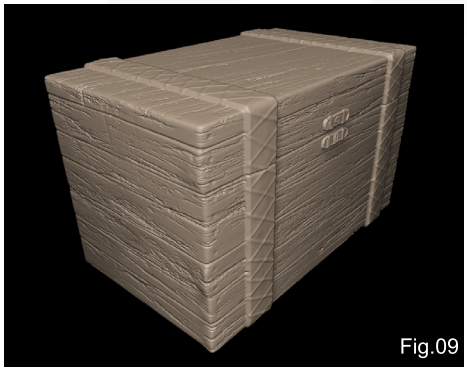
Fig.09

the wood grain a bit (**Fig.09**). I can then rotate and scale it into the pirate's arms. To do this, I have to tweak the pirate's hands and fingers slightly to get them to grasp the chest a bit more convincingly.

I like to leave myself about half an hour or so to go over the whole model and tweak out details in certain parts, so at this stage I take the liberty of focusing on the face a bit more and add more wrinkles and some eye details to bring out the character even more (**Fig.10 – 11**).

Free Movie:

To view the third part of the sculpting progress you can download **Movie 03** at the end of this tutorial.

Conclusion

Whenever I finish a speed sculpt, or any sculpt for that matter, I have a sense of accomplishment and relief. I always try to challenge myself, learn something new, and try a couple of new tricks that I've learned from other ZBrush sculptors. And I'll repeat: learning anatomy is the key in being able to have a successful speed sculpt! I'm always learning as

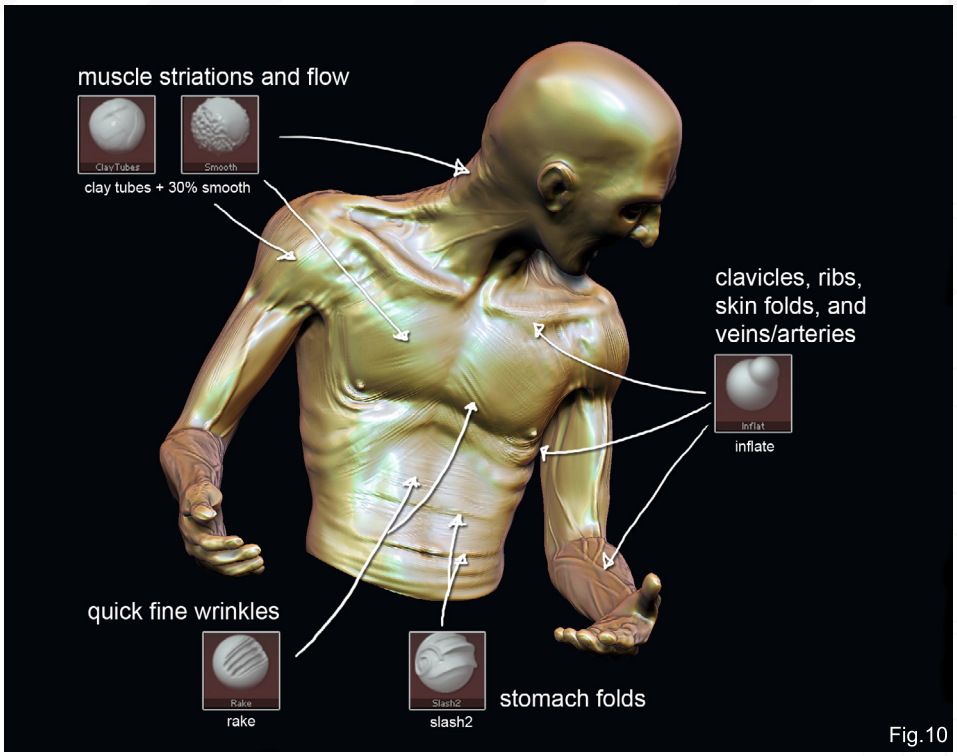

Fig.10

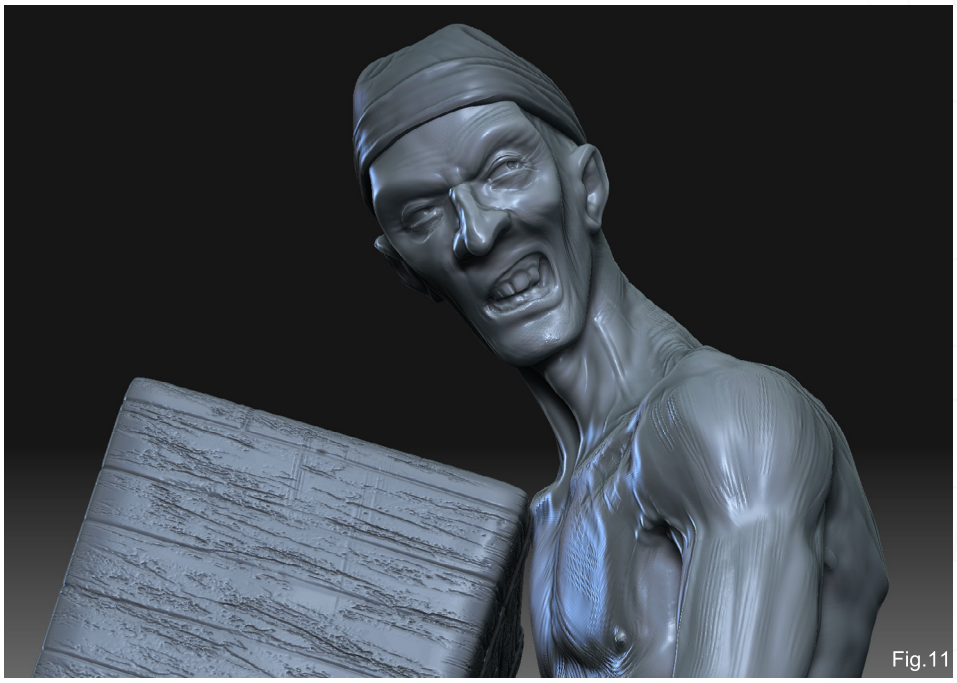
Fig.11


Fig.12

much as I can. Putting your characters in varying poses will challenge you to know how certain muscles will flex, contract and stretch. But in the end, it's all about the emotion and character in the pose and expression on the face (**Fig.12 – 13**).

Jesse Sandifer

For more from this artist visit:

http://www.jessesandifer.com

Or contact:

jessesandifer@gmail.com

Movie 01

Movie 02

Movie 03

Fig.13

ALEX OLIVER

CREATED IN:

ZBrush

STEP 01:

I begin this speed sculpt by trying to find the best anatomical shape for my head. I use the Standard brush in ZSub mode to open up the mouth area, and then use the Clay brush to add some detail for the ears and nose areas (**Fig.01**). Try changing the brush mode occasionally as well, for example try setting it to around 19. At this stage of the sculpting process it's all about finding the shapes and not yet worrying about the details like wrinkles or pores, etc. And be sure to use good reference images when you're sculpting, too, as it will make all the difference to your work!

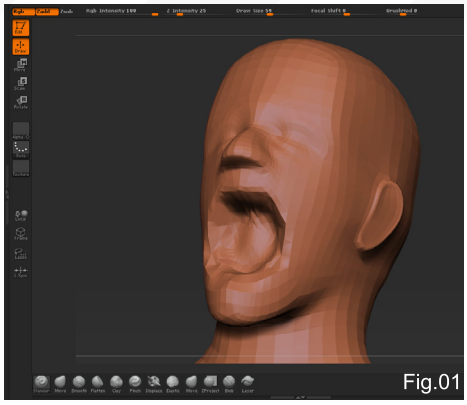
Fig.01


Fig.02

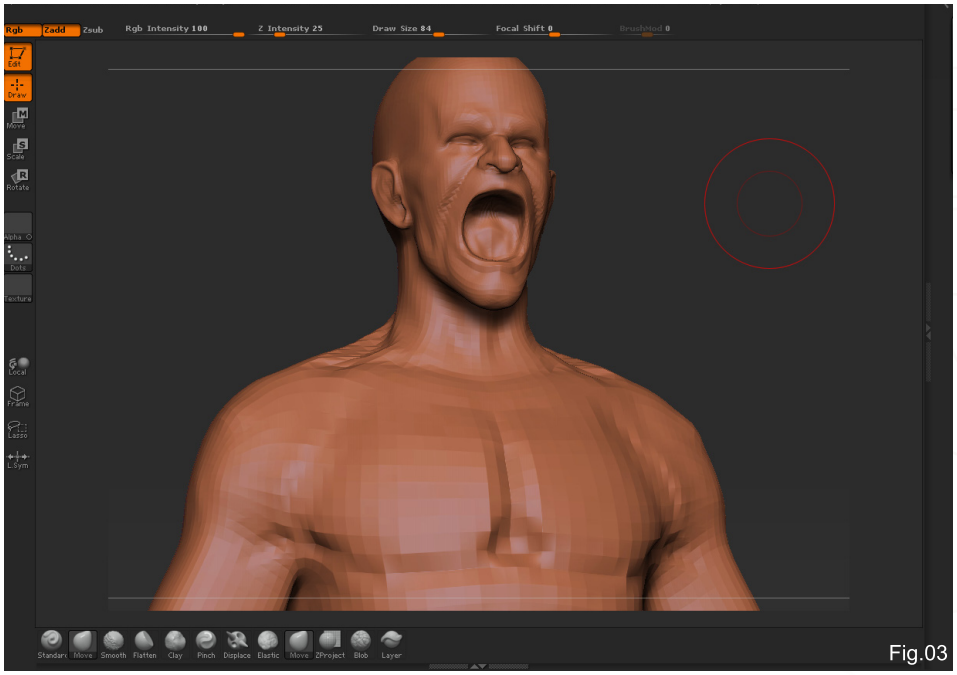
Fig.03

STEP 02:

Here you can see all the bones and the mass structure in my head sculpt starting to take shape (**Fig.02**). I'm still using the Clay brush here, also adding some volume to eyes. This is the most important stage of a sculpting process – trying to get all the structure and shape right before you move on to the finer details!

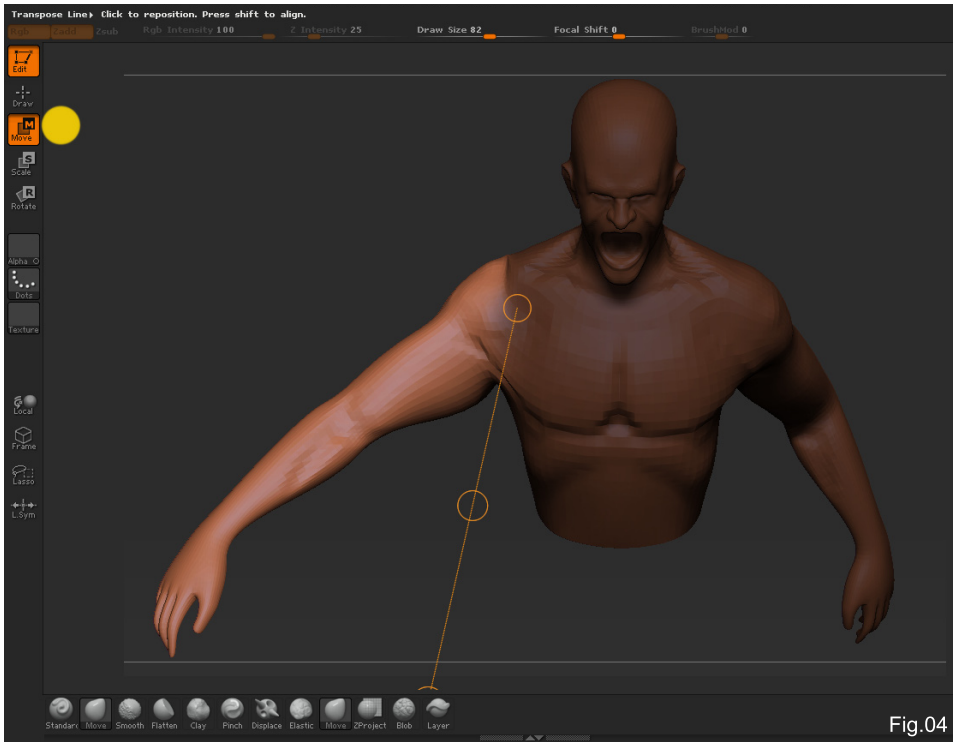
Fig.04

STEP 03:

Now I move my attention to the body, adding volume to the torso (**Fig.03**). You can try and set the Clay brush to 22 for this type of work. Again be sure to use some good anatomy reference images or anatomy books when sculpting at this stage so as to be sure to get the proportions and aim for anatomical correctness.

STEP 04:

Now it's time to break up the symmetry of the work, so I turn the symmetry off in X and in Transpose I choose Rotate. Now I simply drag and draw an action line, and then rotate the arm, still working with Transpose using the Move tool.

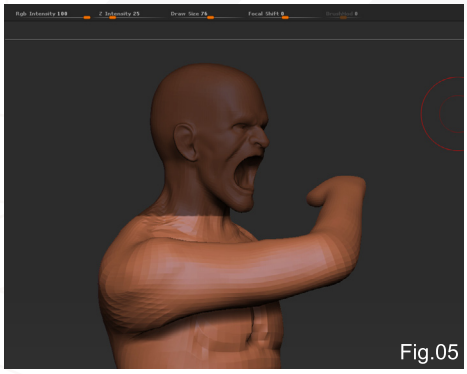
Fig.05

You can also use a mask and that way work on just the body part that you want to. As you can see (**Fig.04**), I chose to mask the area of the body that I wanted to pay attention to, as I found this particularly helpful for this kind of work. To do this, just hold down Ctrl and draw and select the part of the body that you want to work on.

STEP 05:

Using the mask, I now select the head and, pressing Ctrl + I to invert it, I try to move and rotate the head (**Fig.05**). You can also hold down the Ctrl key and click on the body to get a smoother mask, if you want.

STEP 06:

Still working now on moving the body using the Transpose tool, I try to make my base mesh more dynamic, again using references to capture a good pose (**Fig.06**). You can also try using a digital camera and take some photos of yourself and use that as reference to sculpt, too!


Fig.08


Fig.06

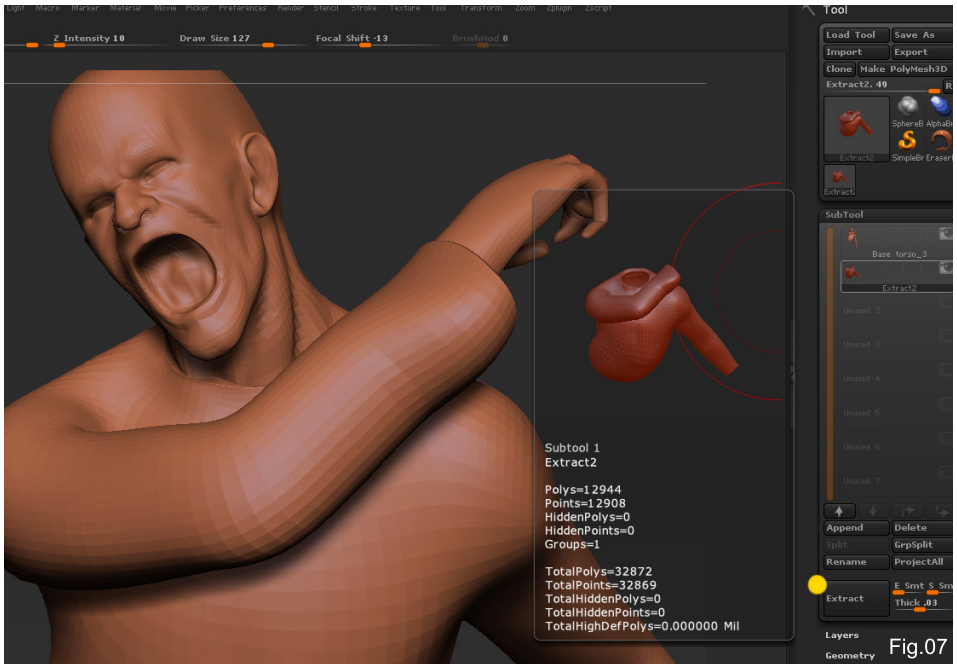

Fig.07

STEP 07:

At this stage I can start to work on the clothing for the character. To do this I use Extract – go to Tool and you will find the Extract option in there. First of all, I select and mask the area that I want. To use the Extract option I then go to the region that I want to extract, click on Extract and there I will see a new mesh form from the one I just extracted it from. A new Subtool also now forms in the menu, under the Tool menu (**Fig.07**).

STEP 08:

Here you can see the creation of the hair. Again, you can use the Extract technique to create the hair – you just need to paint a mask on the head and then Extract (**Fig.08**).

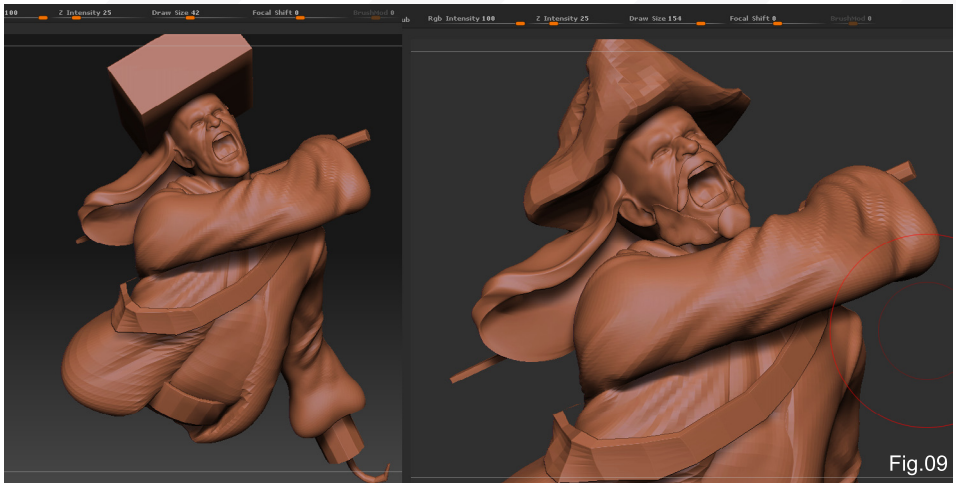
Fig.09


Fig.10

STEP 09:

Using the Subtool menu you can add any additional meshes that you wish or need to use. Here I use a cube which I exported from XSI to create the hat (**Fig.09**). You can see that I did the same thing with the belts, too. All that you need to do is import a mesh using the Tool menu and selecting Import.

STEP 10:

You can see here that I also imported another mesh to create the teeth (**Fig.10**). Here I am still working on the facial expression, adding details on the eyes, nose and ears, etc. As I mentioned before, it is very important you use references in order to help your sculpture look as much like a real face as possible.

STEP 11:

Here I start work on a beard for my pirate, which I again use the Extract method for, in the same way that I created the hair and clothing (**Fig.11**). To add details to the beard I use the Snakehook tool to add move movement to the hair. I try to do this in lots of different directions to make the hair look as believable as possible.

Fig.11

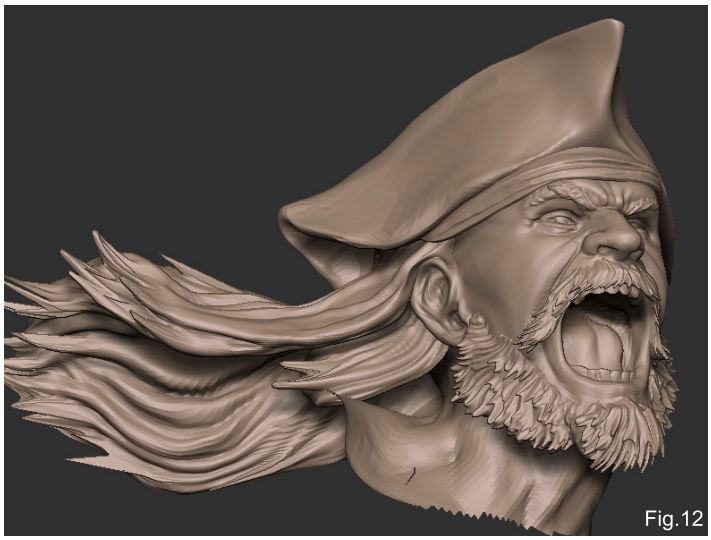
Fig.12

STEP 12:

Here is the head with a different shader (**Fig.12**). To change the shader simply go to the Material menu and choose any of the many shaders which are available in ZBrush. Sometimes, changing the shader will help you to see the shapes of your sculpt better.

STEP 13:

At this stage I'm now adding the details as well new meshes to the model, constantly working towards a final sculpt (**Fig.13**).

STEP 14:

And finally, here is a final image of my Speed Sculpt for the brief. I worked for 3 hours and 20 minutes on this sculpt, in total – I hope you like it!

Note from the Editor: Alex Oliver has kindly given us real-time movie footage detailing the creation of this speed sculpt to accompany this Speed Sculpting tutorial for 3DCreative, all of which are available to download here now! Simply click on the 'Free Movies' download logo and you're away! Please note that because the movies are in real-time the file sizes are large – there are 17 movies in total, with a combined file size of 936MB compressed/2.4GB uncompressed. These movies are a great way to see Alex Oliver at work, so sit back, relax, and enjoy!


Fig.13

ALEX OLIVER

For more from this artist visit:
http://www.alexoliver.art.br/
Or contact:
mail@alexoliver.art.br

Fig.14

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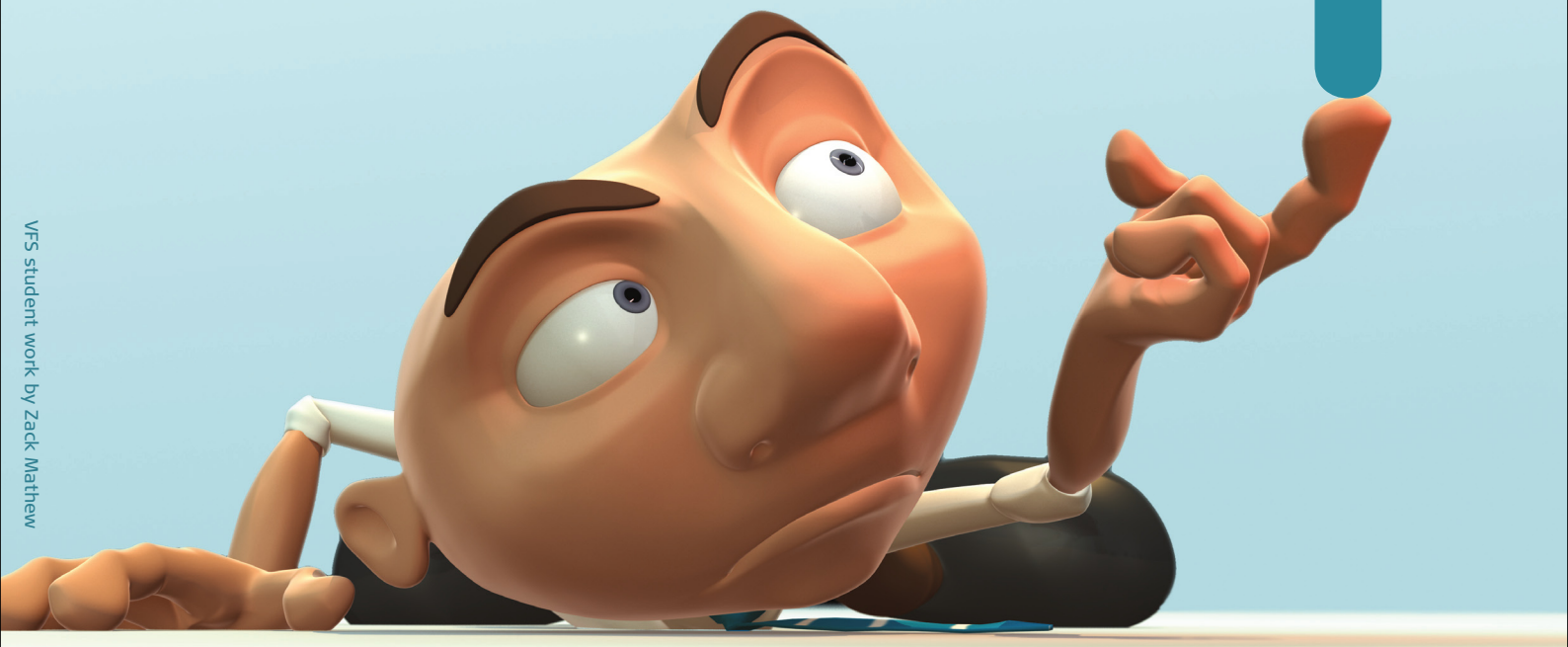

VFS student work by Zack Mathew

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"I start to work on the shape as if using real clay; first of all I try to establish a good bone structure for the character. In this case I opted to create an African man, so the head bone structure is very different from a Caucasian one..."

Old / Gaunt
Character Creation
ZBrush

September 2008
Part 1: Old / Gaunt

October 2008
Part 2: Obese

November 2008
Part 3: Steroid-Pumped Guy

December 2008
Part 4: Extreme Piercings & Tattoos

January 2009
Part 5: Beaten-Up

February 2009
Part 6: Zombie

March 2009
Part 7: Vampire

April 2009
Part 8: Werewolf

May 2009
Part 9: Frankenstein

Welcome to the new ZBrush Character Creation tutorial series. Each month, Rafael Ghencev will take us step-by-step through the transformation of a clean, generic head base mesh into a character type of 3DCreative's choice! We thought that topics such as a wrinkled, gaunt, old man, a steroid-pumped guy with popping veins, an extreme tattooed and pierced dude, and even some real extreme cases of personality disorders in the form of a vampire and a werewolf, would be fantastic for detailed sculpting work! On top of all these, Rafael thought it would be cool to sculpt and texture Frankenstein, and we agreed, so we've even thrown that one into the line- up for you as well. So stay-tuned over the next nine months to see Rafael at work and to learn a thing or two about detailed sculpting in ZBrush for characters. This first tutorial covers a more basic approach to developing a gaunt/old man, to ease you into the series.

Enjoy!

Old/Gaunt
ZBrush Character Creation

Created In:
ZBrush 3

Concept
Whenever I begin a model, I first of all try to define what kind of model I'm going to develop. If I'm going for a more creative type of piece then I will start off with some sketches and drawings to find the right look before I start, because on paper you can create endless tests – all very quickly! After the sketching stage I will then look for references to fine-tune my vision of the work I wish to create and, because of this referencing, I will achieve a much more natural look in the end.

In the case of this sculpt, I simply searched for some photo references, because I already had an idea of what I was going to create for the topic of this tutorial, "Old/Gaunt", and so I didn't need to do any sketches before I got to work (**Ref.01a – b**).

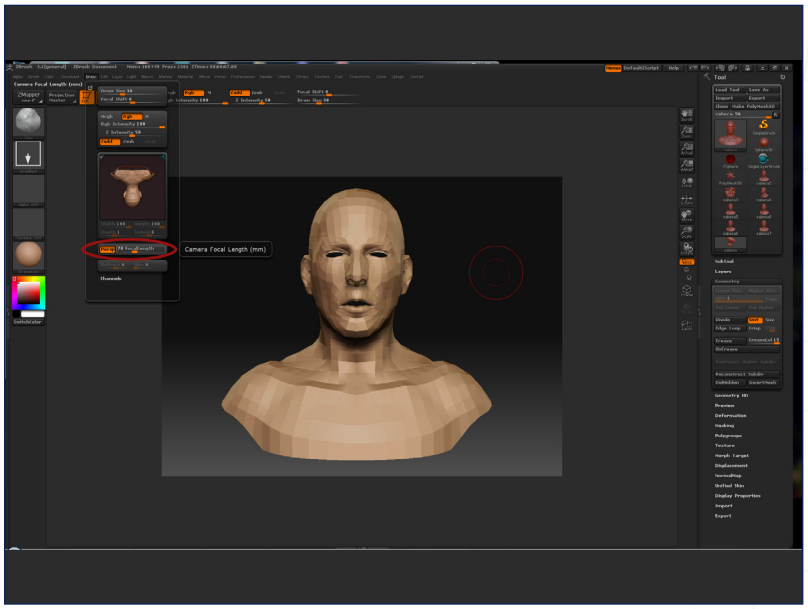
Ref.01a

Ref.01b

Sculpting
The first thing I always do when in ZBrush is adjust the perspective so that it suits my model, because the perspective distortion depends on the size of the tool used on the canvas (**Fig.01**). To adjust the perspective view is very simple: you go to Draw > Perspective Distortion. If you need change the values to fix the distortion, if you increase the value you will have less distortion, and more distortion with lower values. If the value is set to 100 the camera will be in an orthographic projection.

I then select the Smooth sculpting brush and adjust the intensity of it, usually setting it to something around 20. I'm configuring the Smooth brush here just to save time; I'm not using it right now but I will be very soon!

Fig.01



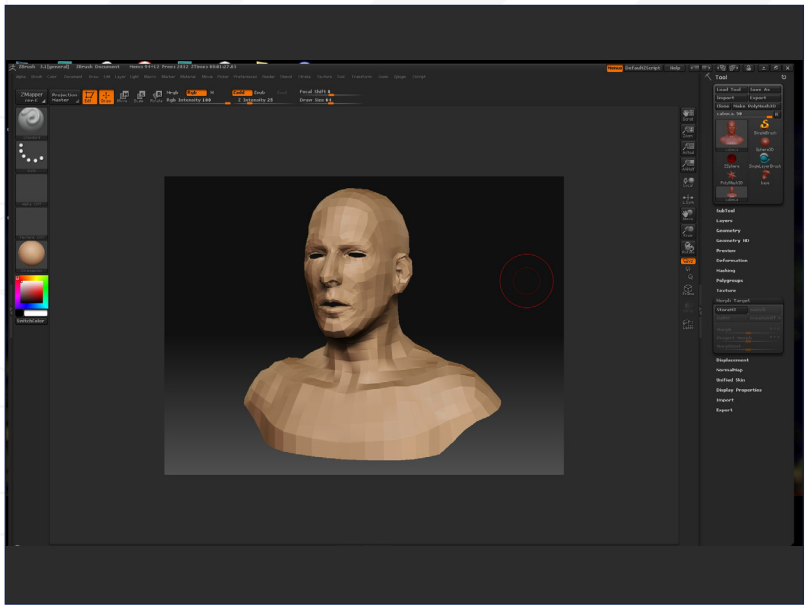


Fig.02

Basically, to use the Smooth brush I simply press the Shift button (shortcut for the Smooth brush) and my brush will automatically change to Smooth. This is why I like to do this early on as it has a definite impact on the speed of creation later on. I generally like to work with a lower value in the Smooth brush because this way it gives me more control.

At this point I turn on the Symmetry to save time, because everything I do on one side of the model when this is turned on will also be done symmetrically on the other side, too. You can turn this on by going to Transform > Activate Symmetry (or press the X key on your keyboard). I generally like to work with this only at the beginning of the model, and later on I will turn this off to achieve more realism in my sculpt.

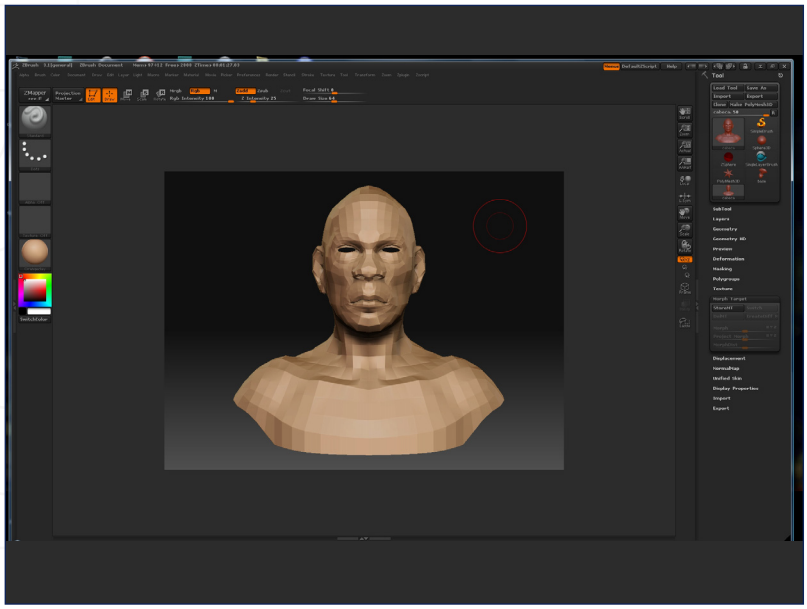


Fig.03

After importing the base mesh (**Fig.02**), I don't subdivide the base mesh at first so as not to lose the initial focus, which is simply to adjust the shape of the character at this stage. I look for a good silhouette at subdivision level 0 (this will change during the process, but by working on this level here I can get much closer to the concept that I have in mind). I like to keep my model at a low subdivision level here only to keep my focus on the shape and not on the details, but this is my personal preference. Some ZBrush artists will choose to model at a higher level of subdivision if it works better for them that way, but I prefer this method because it is similar to when working with traditional sculpting material. In a traditional sculpture the shape is built up from a very low quality at first just to visualise the forms, and then later on you add more and more clay to build up the details and then smooth it out to refine it as the last stage.

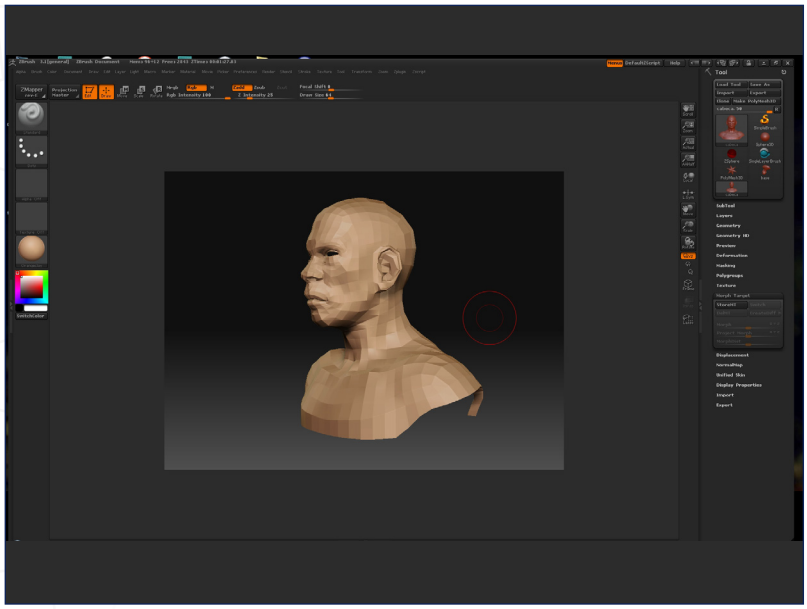
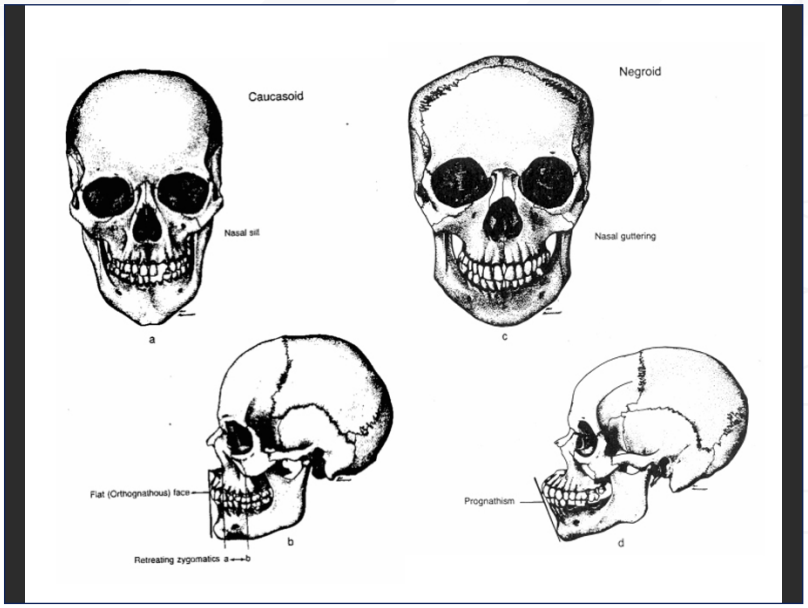


Fig.04

Here I start to block the shape of the character with the Move brush (**Fig.03 – 04**); this brush moves points under the brush in the XY plane of the screen and I'm using it here at its default configuration, simply changing the radius to

modify small or large areas. I start to work on the shape as if using real clay; first of all I try to establish a good bone structure for the character. In this case I opted to create an African man, so the head bone structure is very different from a Caucasian one. Basically, an African skull has bigger cheek bones and the top of the skull is not flat like a Caucasian one, while the bottom of the skull has prognathism, meaning that the jaw protrudes outwards. To make sure I got this right, I searched for some references in order to better understand the differences between skulls when working on this initial stage of the sculpt. I found this image particularly helpful at this early stage of the work (**Ref.02**).

Ref.02



Another very important thing to keep an eye on, besides the shape, is the "strength" of your character, and the "visual weight" of it in your scene. At this stage, all the proportions of your character will tell you what kind of strength your character has (**Fig.05 – 06**). The visual weight of a character is defined by its structure, for example if your character is a muscular man then he will probably have a small head and a bigger jaw – what his character *is* changes the "weight" in the scene. In this case, my character is gaunt and very old, and has probably suffered increased hunger throughout his life, and so his bones will appear larger and his muscles will be more shrivelled. His face and his posture generally won't possess confidence, and his head will be very heavy for such a frail body support. Considering all these elements of your character will help you to define the weight of your model and increase the realism of your work.

Fig.05

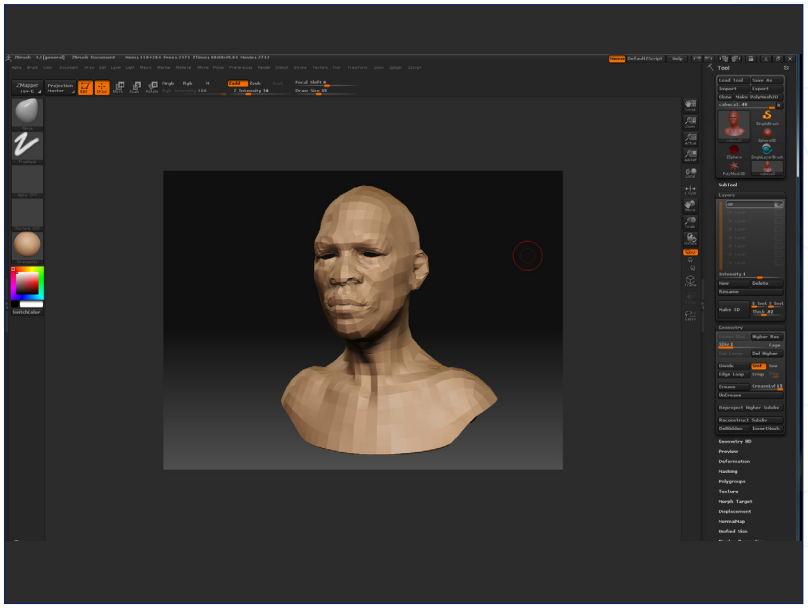
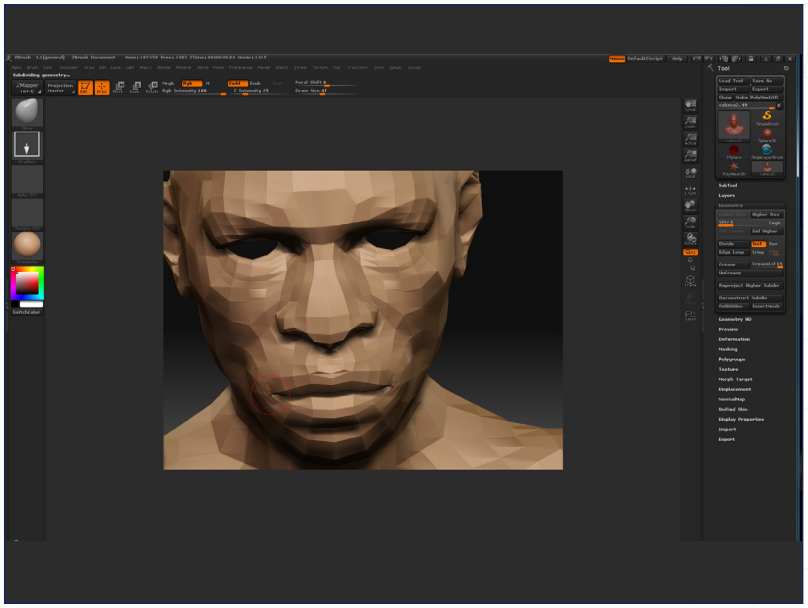


Fig.06



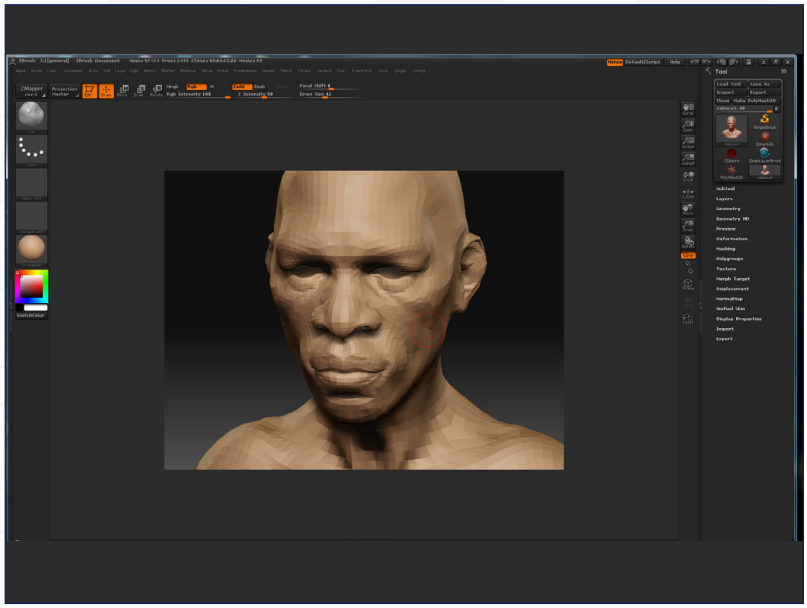


Fig.07

After finding the best overall shape for the character, I can subdivide the mesh once and start to refine the shape further (**Fig.07 – 08**). I only ever subdivide my mesh when I need more polygons to continue my modelling work with. If I don't need them, I don't subdivide! At this stage I am still working on the shape, so I don't need a lot of polygons in my mesh, and with a low poly mesh it is very easy to manipulate polygons.

Note: to subdivide the mesh go to Tool > Geometry Divide, and there you can choose to divide however many times you need/want to (more details = more divisions; less details and shape modifications = lower divisions).

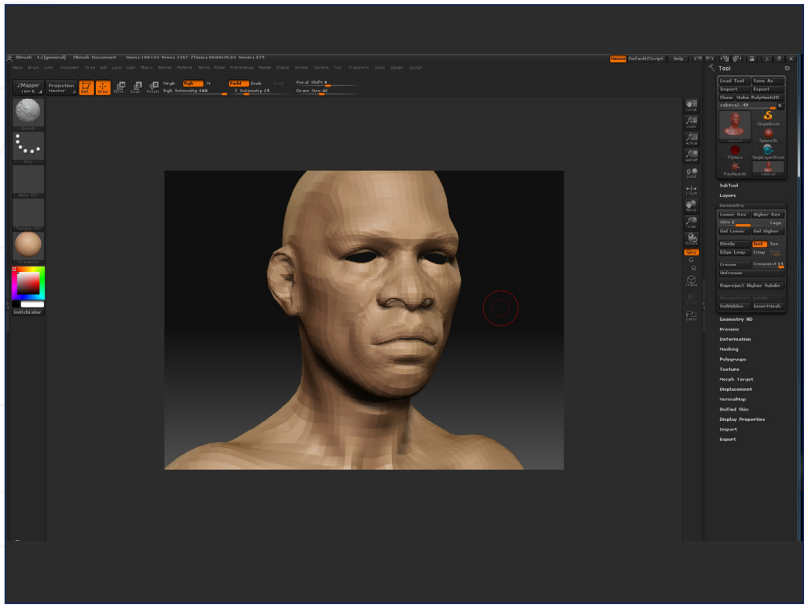


Fig.08

So I can start to work on the blocking in of the facial muscles and fat now. Until this point, the Move brush has been the tool I have used the most to establish the basic shape of my character, but now that I'm starting to block some facial areas in, like the muscles and some volume around the mouth, using the Standard brush with a very low intensity is the best tool that I find to use for this level of detail at this stage (**Fig.09**). The size of the brush is very relative. I change the brush's radius according to the size of the area that I'm working on; if I'm working on big forms and shapes then I use a larger radius, and when I'm working on smaller areas and finer details I'll use a decreased radius. The Standard brush is the original basic ZBrush sculpting brush; it displaces the vertices outwards over the areas it passes and is a great tool for this purpose!

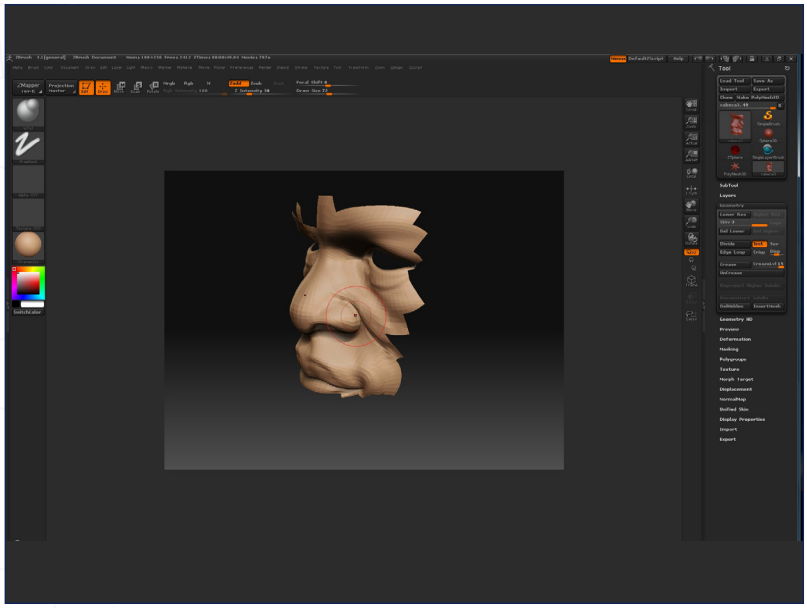


Fig.09

Note: to hide some parts of my model (**Fig.09**) I simply press Ctrl + Shift and click and drag on my model. The part that I click and drag will remain visible whilst the rest will be hidden. This is great way to concentrate your focus on specifics areas! As well as being great for keeping your concentration on your work, it also keeps your machine running more quickly (although this doesn't so much have an effect at this level of subdivision because of there being so few polygons, but later on when I have

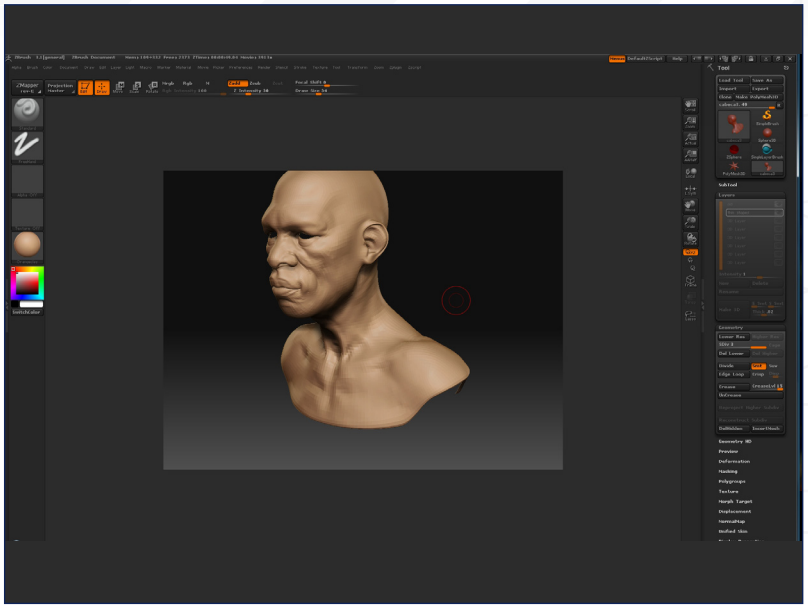
towards 6 million polygons then this will be a really great way of keeping things running nicely whilst focusing on details).

Here I increase the level of subdivision again, so now I have a greater poly count to work with (**Fig.10**). I prefer to work with the Clay and Flatten brushes here (**Brush01 - 02**). The Clay brush is very good to make smoother displacements, and it works very well with alphas too.

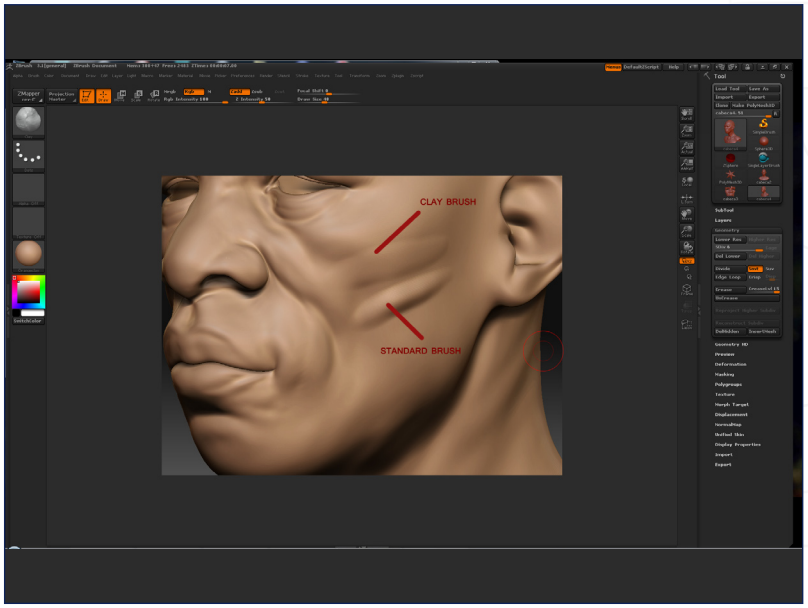
Note: An alpha is a greyscale intensity map which can be used to represent intensity, masking, etc. For example, bump maps and displacement maps are alphas; the grey intensity represents the height/depth of the bump or displacement. In ZBrush, alphas are used for more than bump or displacement maps as they can affect masking (the parts of a model or painting you're working with), brush appearance, how colours or materials are laid down, the shape of the model, and so on. In addition, you can make your own alphas, and also turn alphas into other tools, such as 'stencils'. Any brush can use alphas, but I like to work with Clay or Standard brushes in general.

When you have some areas with cavities in them, for example, then if you use the Standard brush it will create a displacement on top of the cavities. Now, if you use the Clay brush on top of this then it will fill these cavities with mass. The Flatten brush allows you to easily flatten parts of your model into planar surfaces. In addition, you can raise or lower the surface as you flatten it. Using the Flatten brush you can roughly flatten your model in areas, such as enhancing the plane of your model's cheekbones. When I work with the Flatten brush I change the brush modifier to something around about 10, and I can then start to add more volume in a more natural and intuitive way as the work progresses.

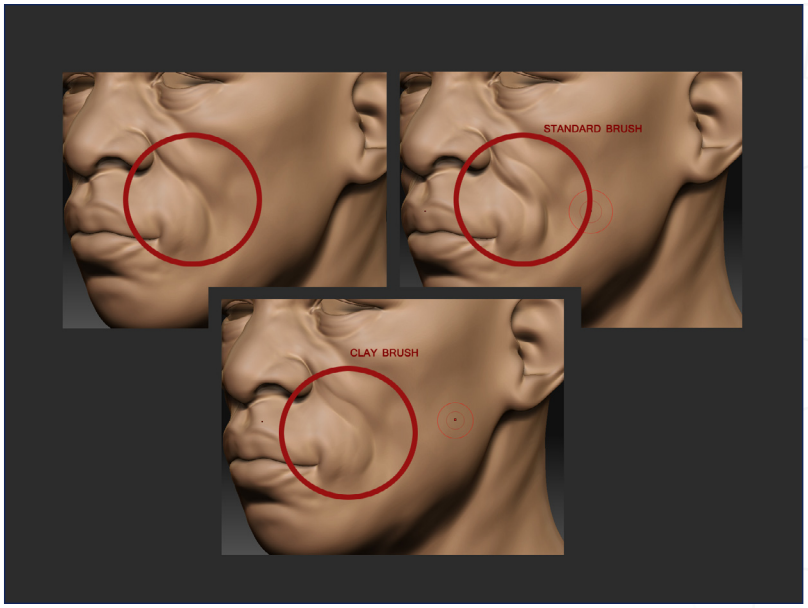
Fig.10



Brush.01



Brush.02



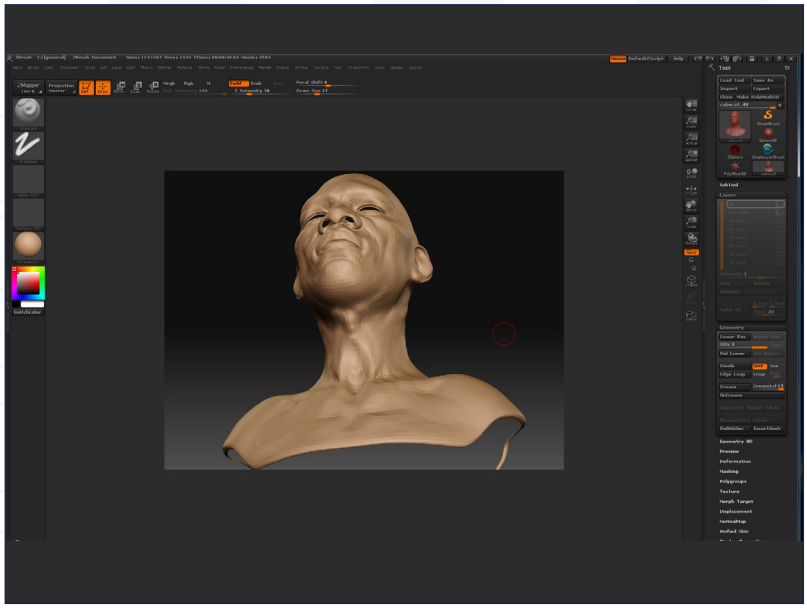


Fig.11

At this stage I start to block in some areas with more definition and make some tests to find the shape that pleases me the most. The Clay brush is a wonderful tool to use for this because it adds volume to the mesh in a way that makes the final result look much more natural, so it's ideal for body imperfections and the like. I always use it to block some areas in, such as the chest muscles and bones, areas of the back, and even some of the major wrinkles. I always use the default values of this brush. I could also use the Standard brush, but I prefer the Clay brush for this kind of task because it has a smoother displacement.

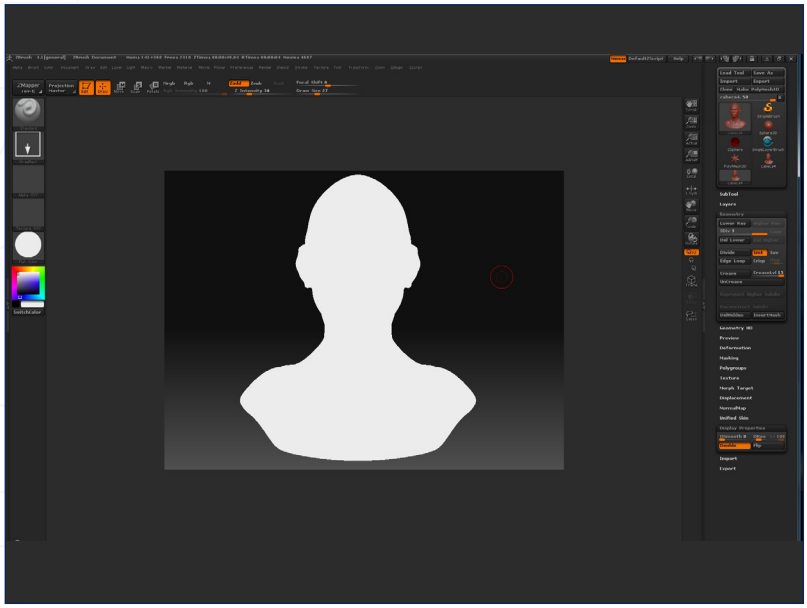


Fig.12

Because the character is so skinny, being old and gaunt, he has to have very apparent bones, and so I must take plenty of care in order to find a good balance between the bones and muscles in his face. Even a very skinny person has muscles, and these muscles are of course placed over the bones (**Fig.11**).

Another very useful tip is to change the Material to Flat Colour, so that you can achieve a better view of the silhouette to see how it's coming along and whether it fits in with your concept (**Fig.12 – 13**).

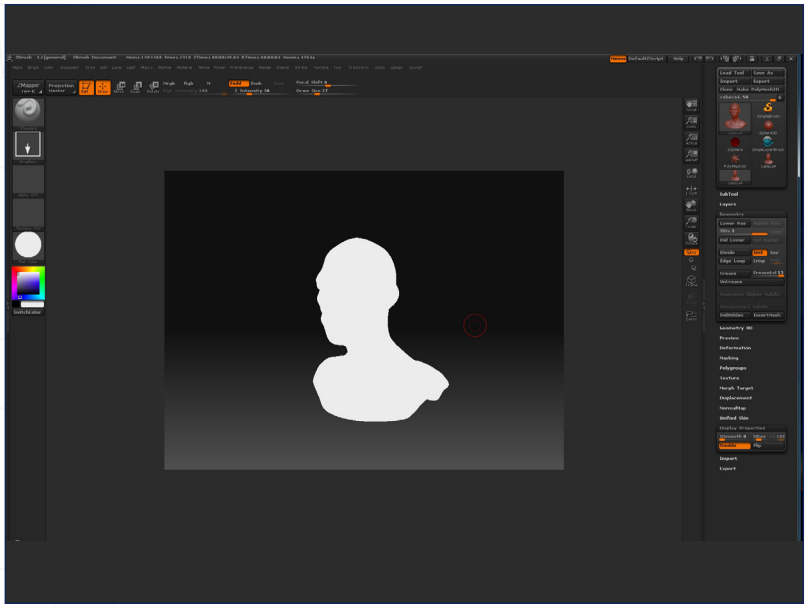


Fig.13

Here I am using the Clay brush again to work on the muscles and bones (**Fig.14 – 22**). In **Fig.15** you can see that I step down a subdivision level in order to make some fixes that I feel necessary to the basic shape of the face and its muscle structure. At this stage, it is essential to use a brush such as the Clay brush in order to achieve a more natural result overall.

Fig.14

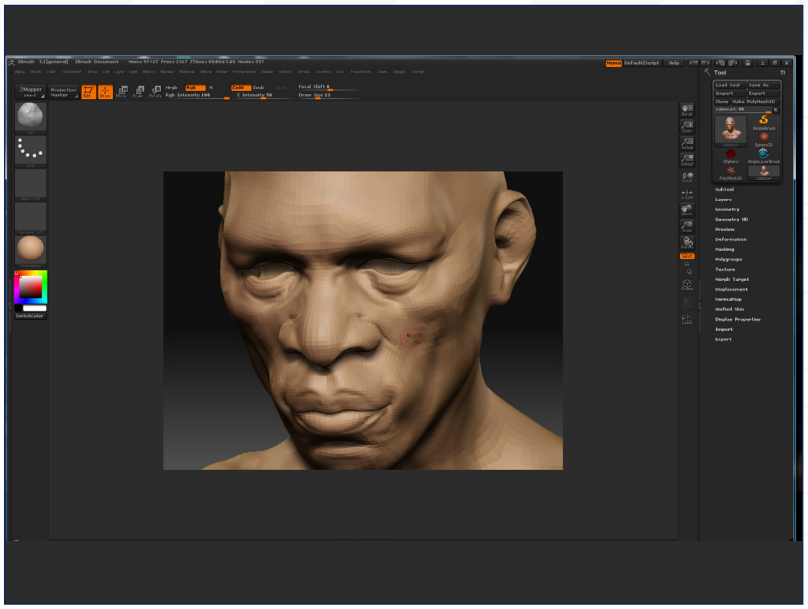


Fig.15

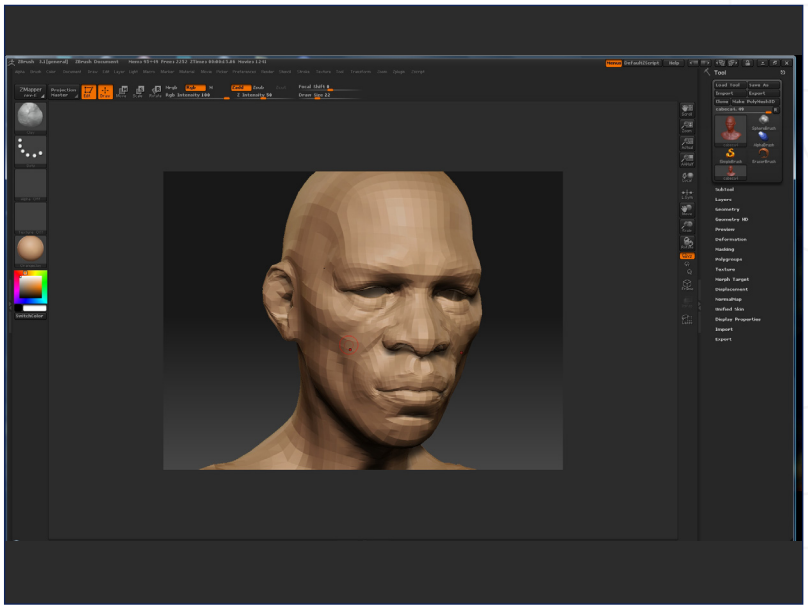
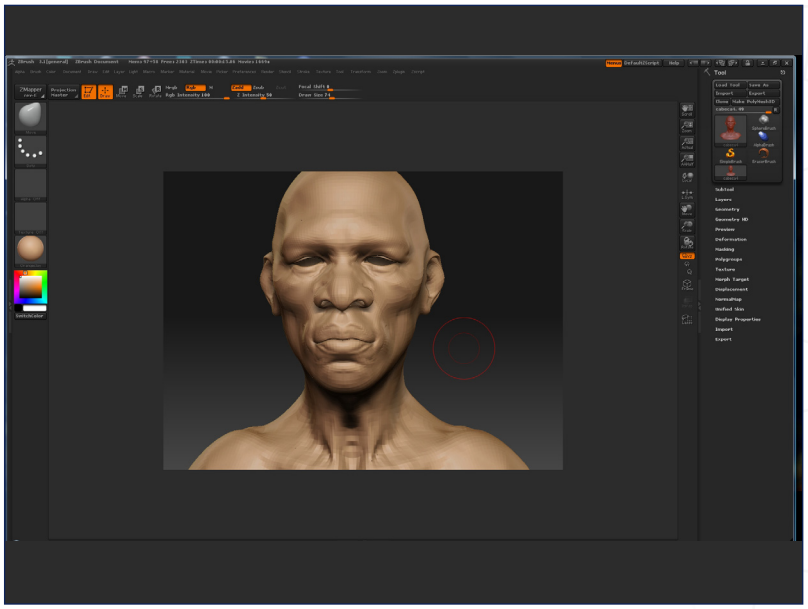


Fig.16



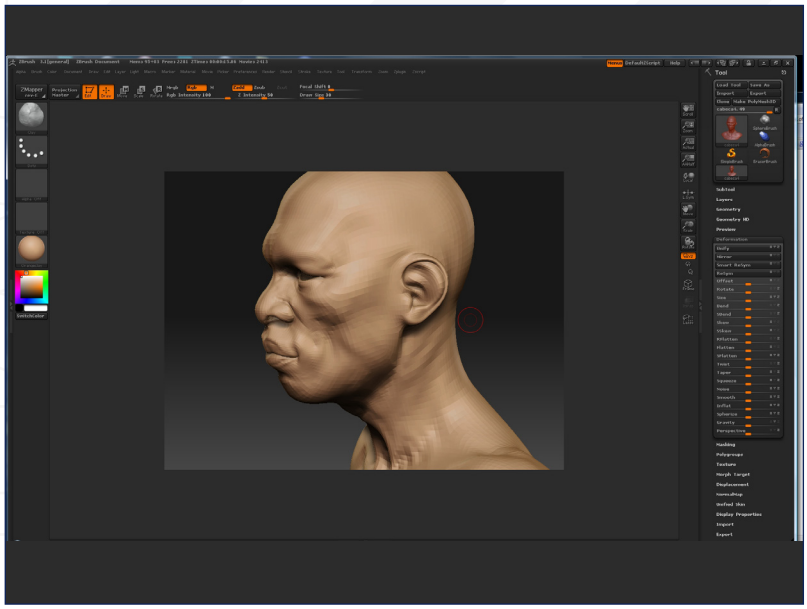


Fig.17

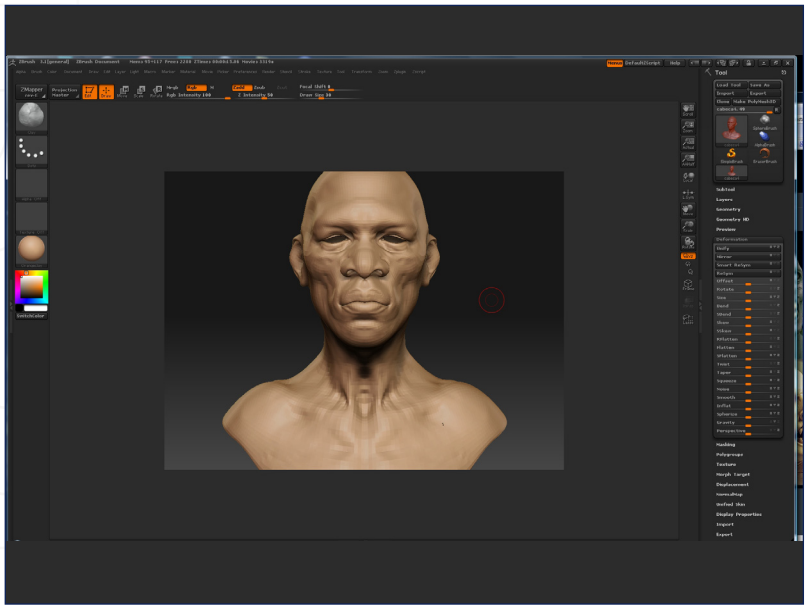


Fig.18

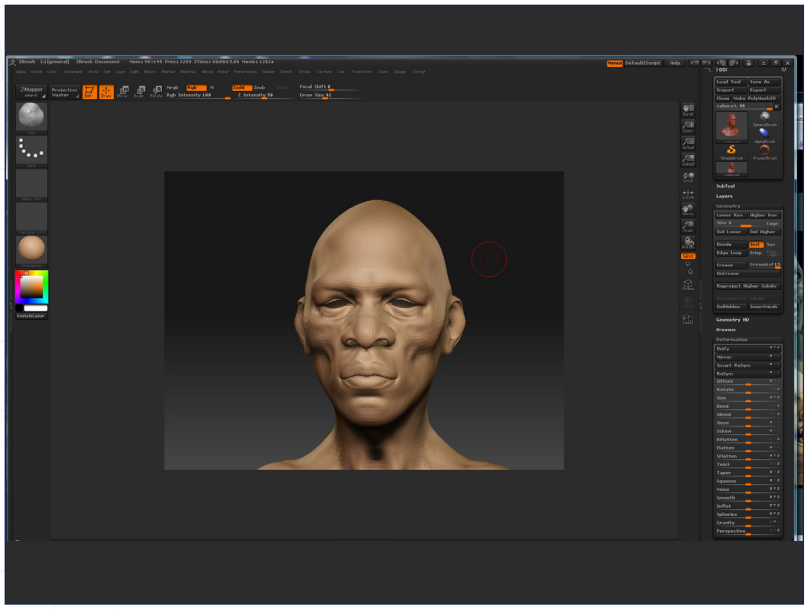


Fig.19

Fig.20

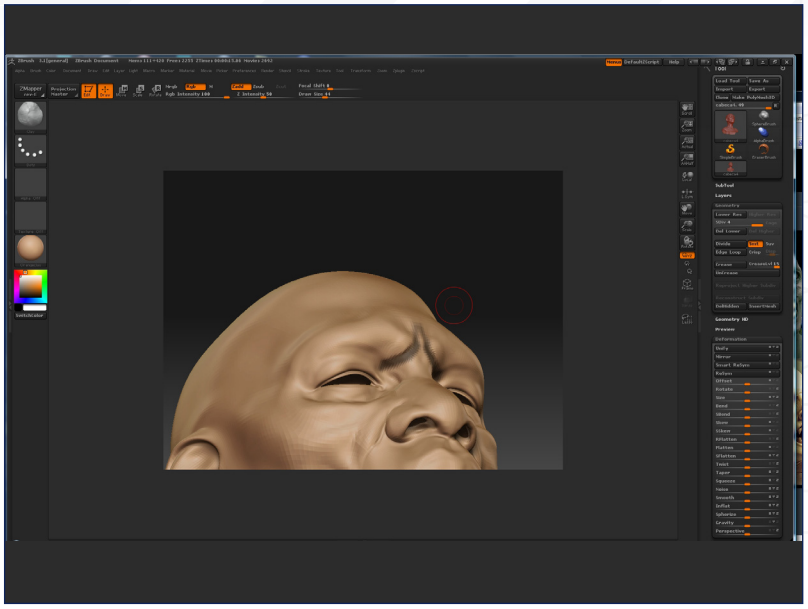


Fig.21

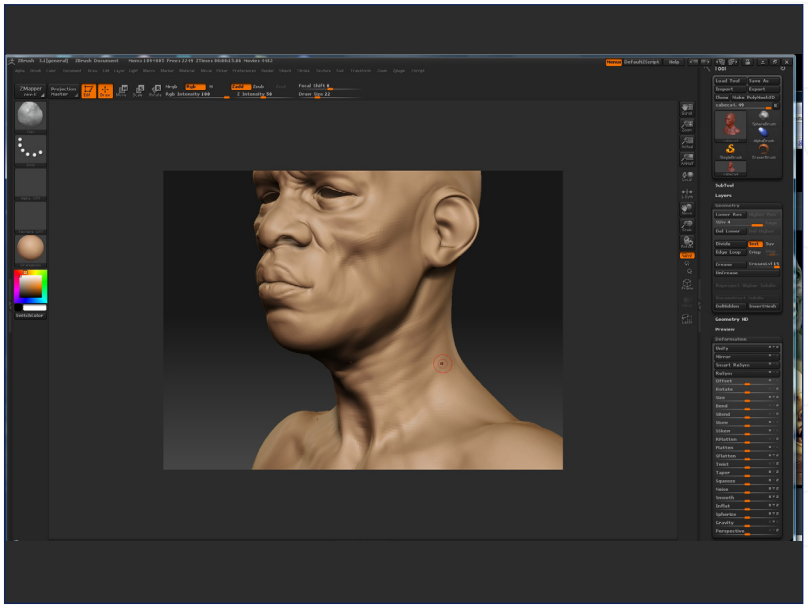
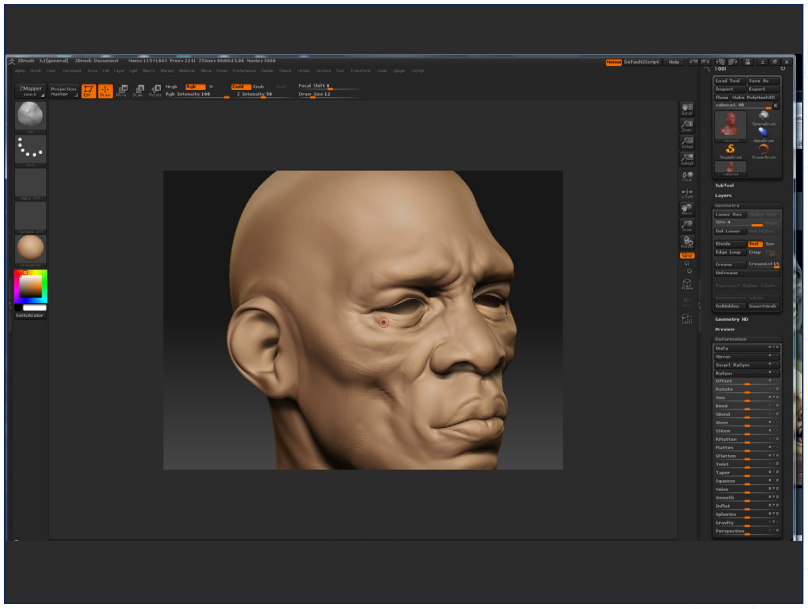


Fig.22



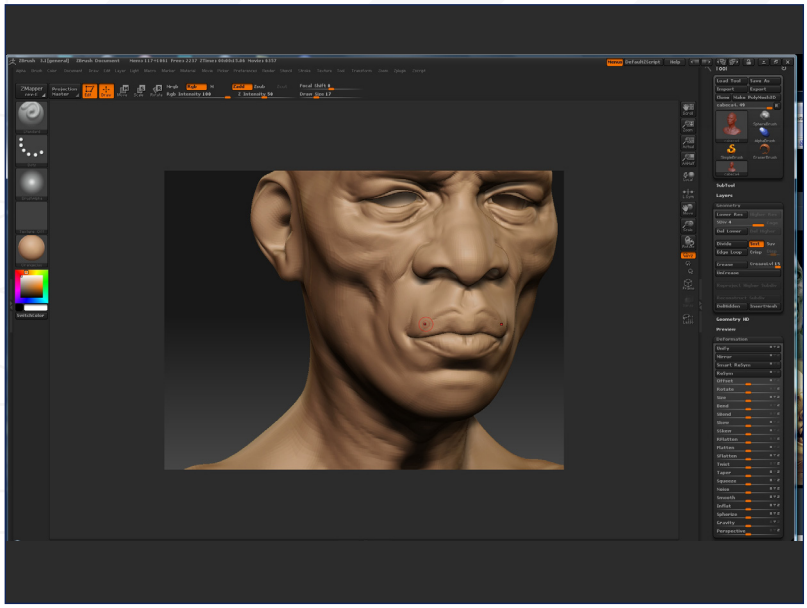


Fig.23

Here I'm refining the shape of the lips using the Standard brush (**Fig.23**).

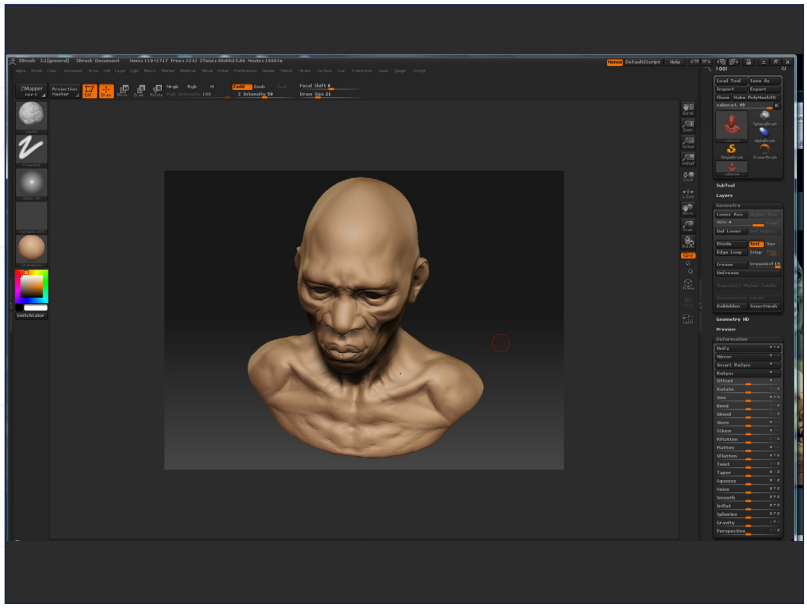


Fig.24

And here I'm using the Elastic brush (**Fig.24**), which basically works similarly to the Standard brush, but for some types of models it is much more accurate at maintaining the original shape of the surface as the surface of the model is displaced.

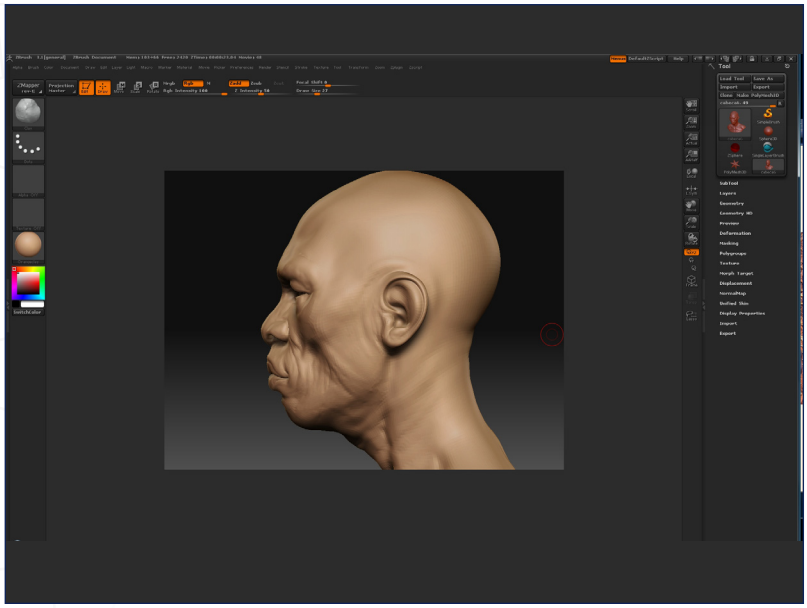
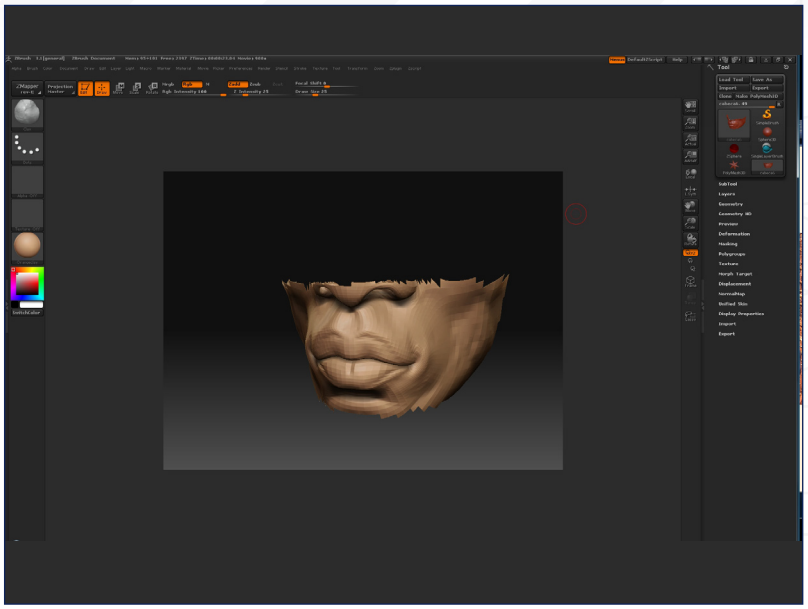


Fig.25

Here I go back to using the Clay brush again (**Fig.25**), stepping down a subdivision level in **Fig.26** to focus on the mouth area without being distracted by the rest of the head, neck and chest.

Fig.26



Here I'm simply working on some cavities with the Elastic brush again, but the Standard tool would be equally as good for this type of detail (**Fig.27 – 28**).

Fig.27

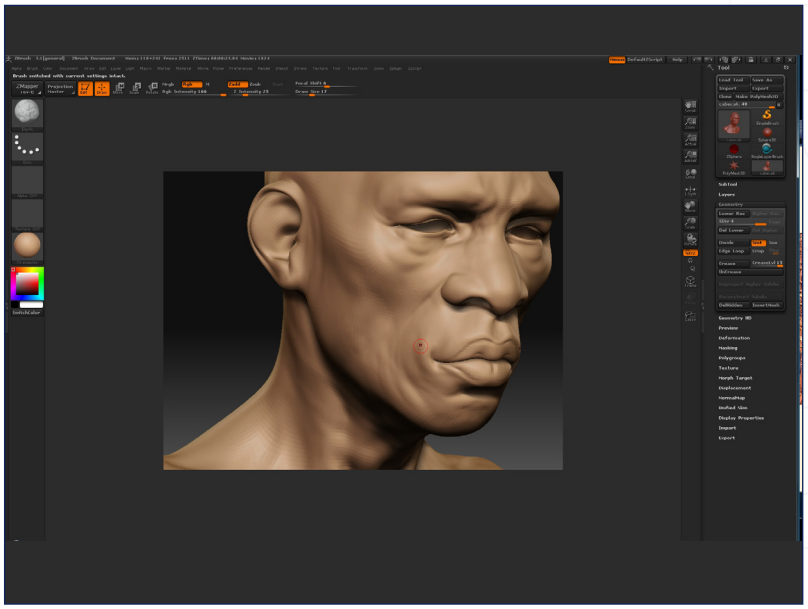
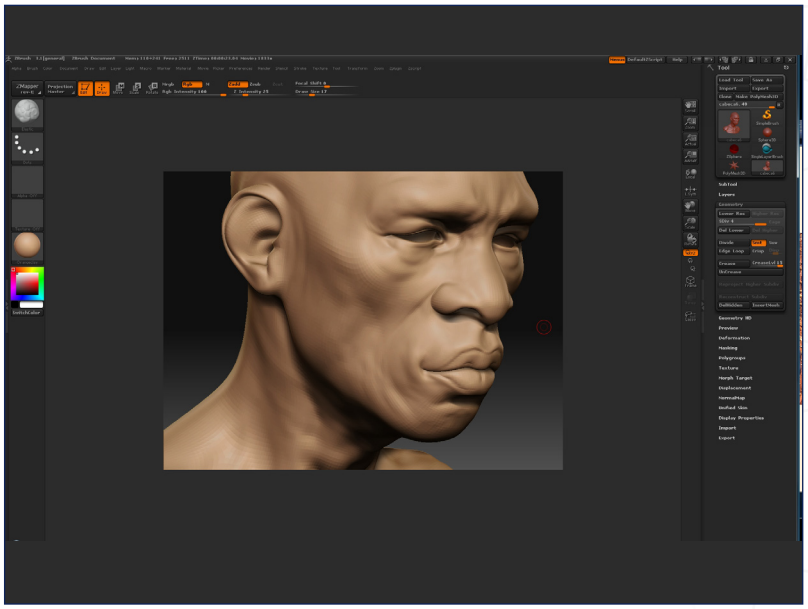


Fig.28



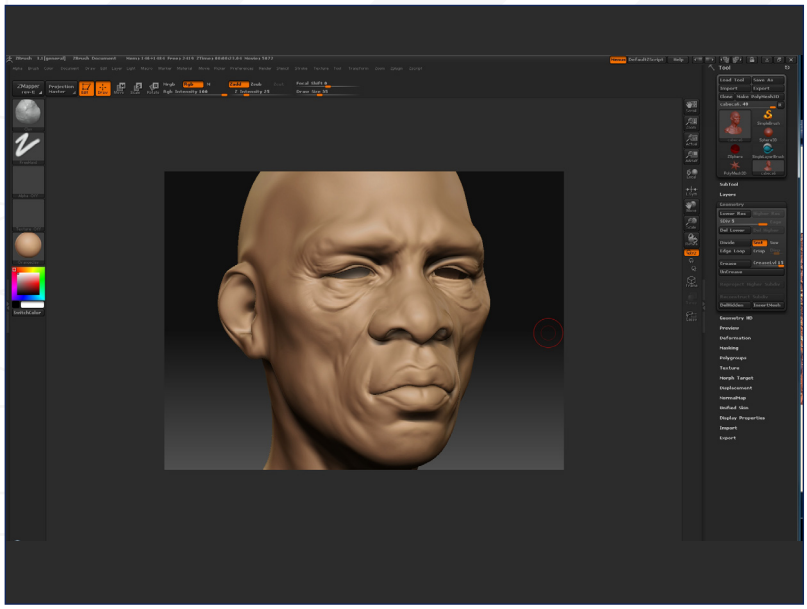


Fig.29

After finding the best overall shape for the character, I can start to move on and create some of the more character defining details (**Fig.29**). At this stage, it's important to start with the detailing of the largest wrinkles and cavities, working my way through to the smaller details as I progress with the sculpting.

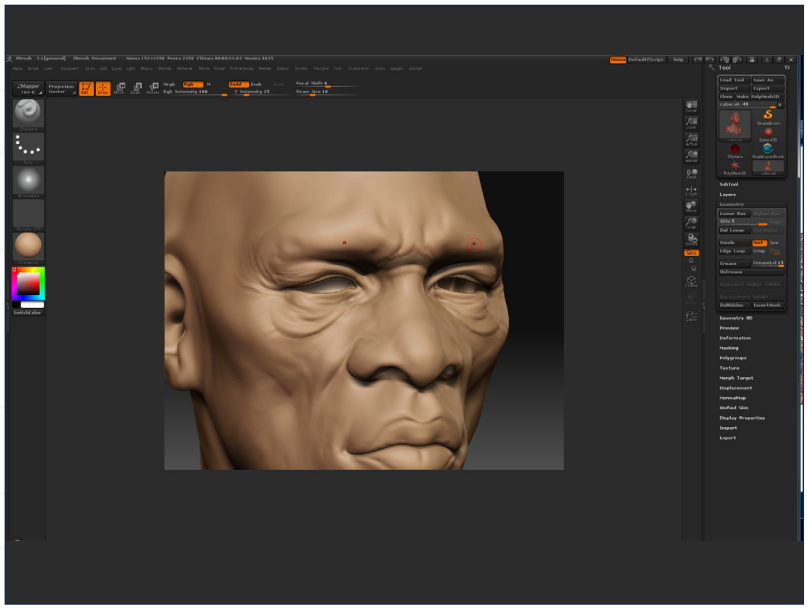


Fig.30

Creating wrinkles in a head sculpt is very simple: referring to one of my reference images I try to achieve the same effects by simply drawing many lines in my model. Later, I use the brush with the Alt button pressed – which basically inverts the tool (this applies to any brush), enabling me to make the cavities related to wrinkles. I like to use the Standard brush with Alpha 38 turned on (**Fig.30 – 31**). This tool, with this alpha, will create a very good wrinkle effect, and it is also very good for working on the finer details.

On the neck, using the Clay brush, I also block the basic form of the final wrinkles in. Again, the Standard brush is also very useful here in order to create some cavities between the wrinkles. I can now start to refine the volumes on the chest and neck, like the muscles over the bones. Once again for this type of work I use the Clay brush to achieve a more natural look. I always use the same brush settings – there's no need to change the settings, the only thing I do change is the alphas and that's only occasionally!

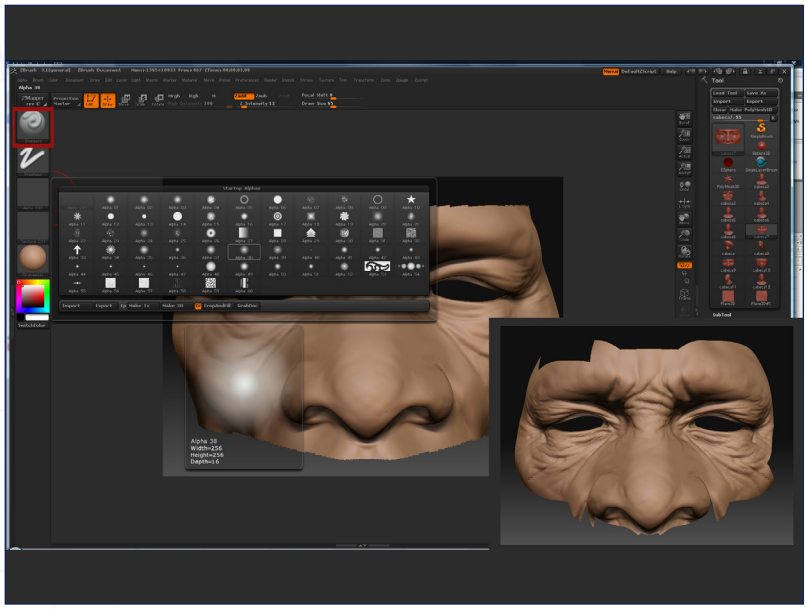


Fig.31

With a new subdivision level here, I start to define some of the thinner and smaller wrinkles, always paying attention to their positions and directions on the face and neck. At this stage it is important to concentrate on very specific points, so it's very useful to hide some parts of the model to keep your attention on the areas you're working on and focus on the kind of detail you need to achieve in your sculpt (**Fig.32 – 39**).

Fig.32

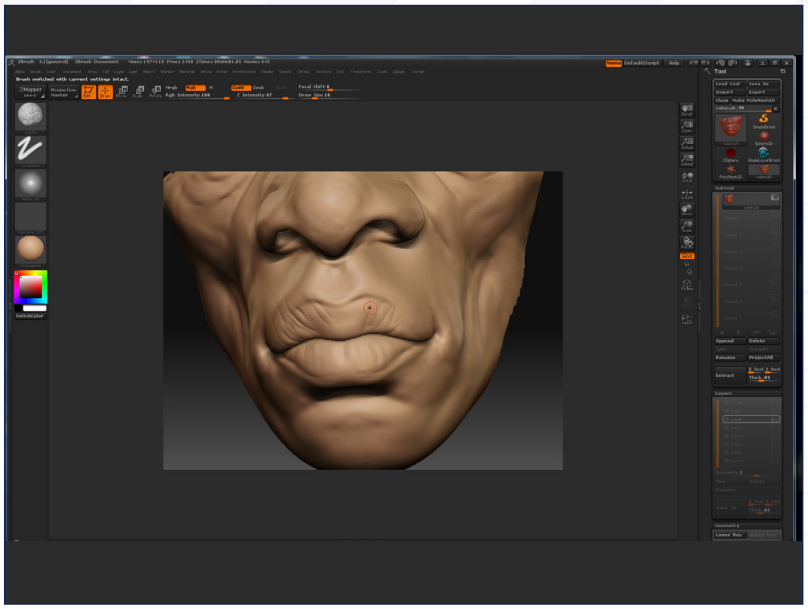


Fig.33

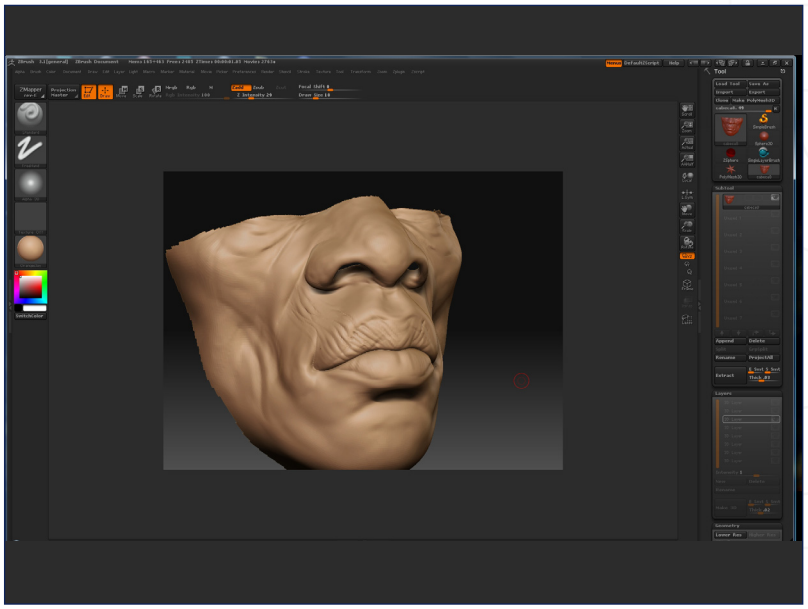
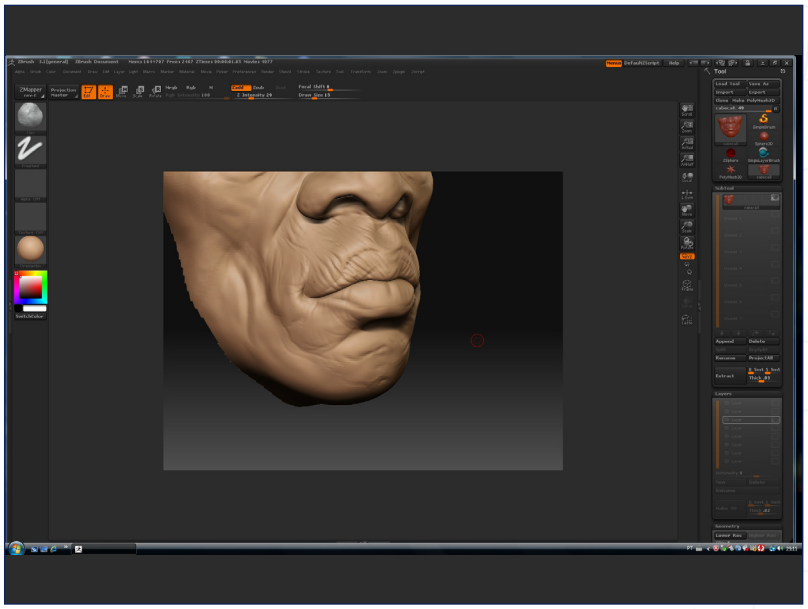


Fig.34



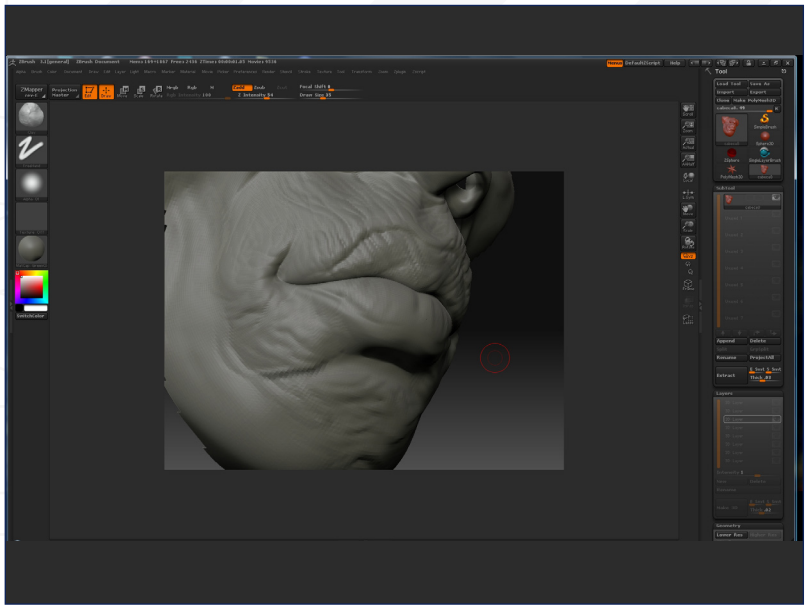


Fig.35

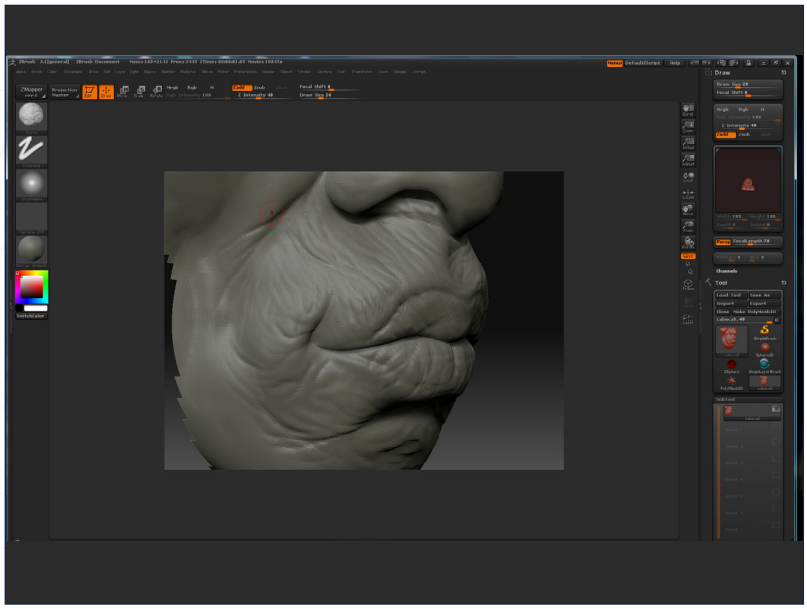


Fig.36

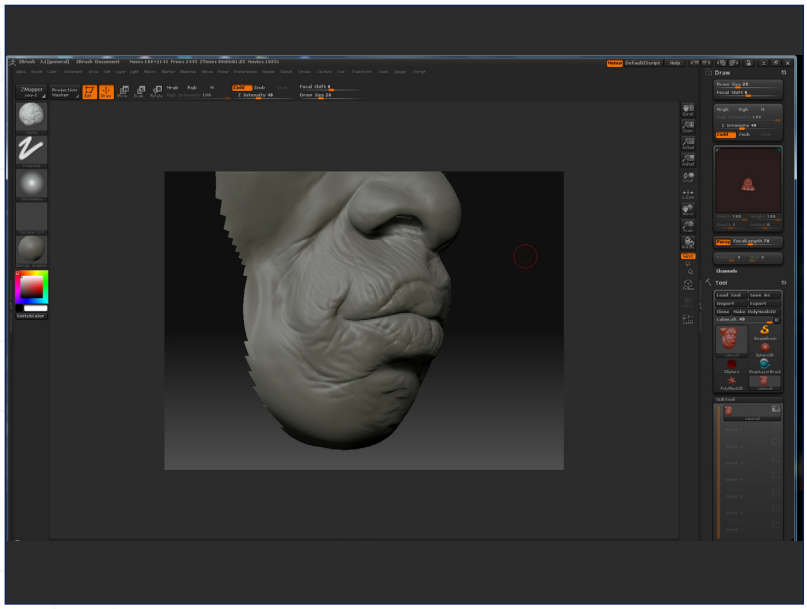


Fig.37

Fig.38

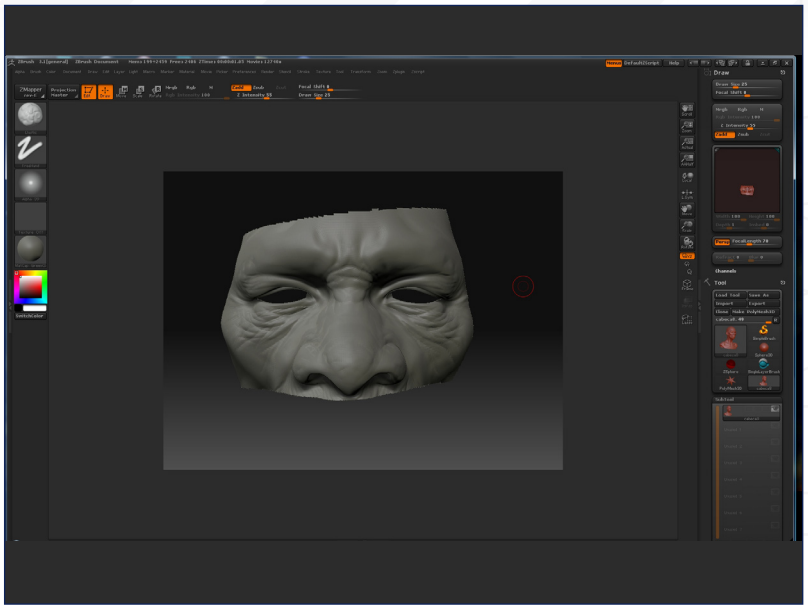
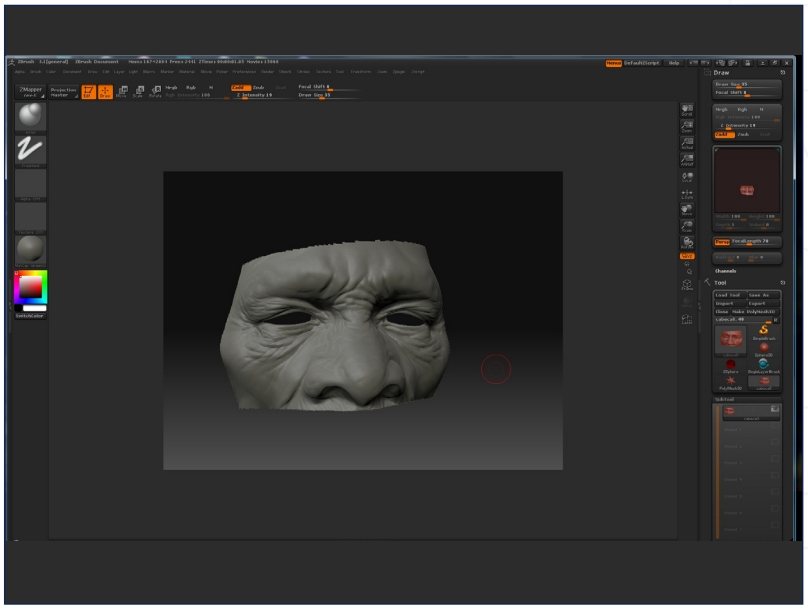
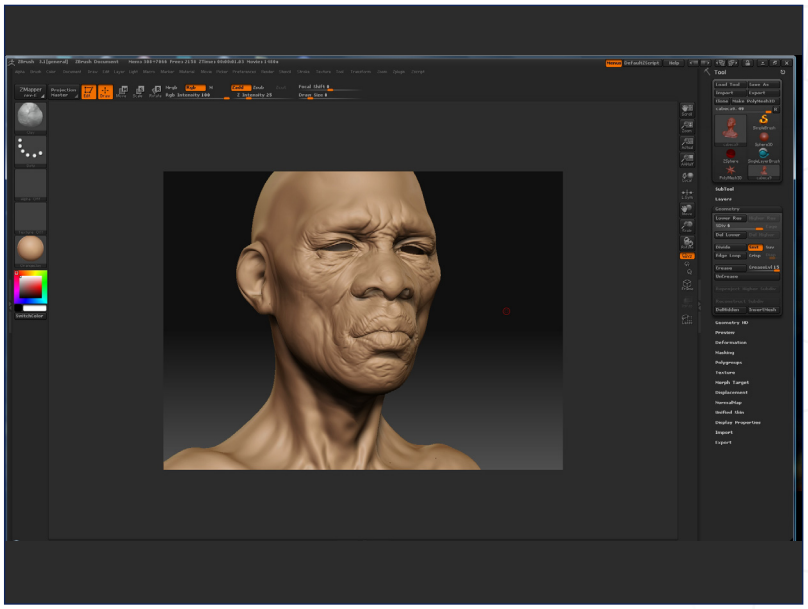


Fig.39



Here I'm working on the muscle construction and beginning to get into the more detailed wrinkling of the skin, using the Standard and Clay brushes at the usual settings (**Fig.40 – 43**).

Fig.40



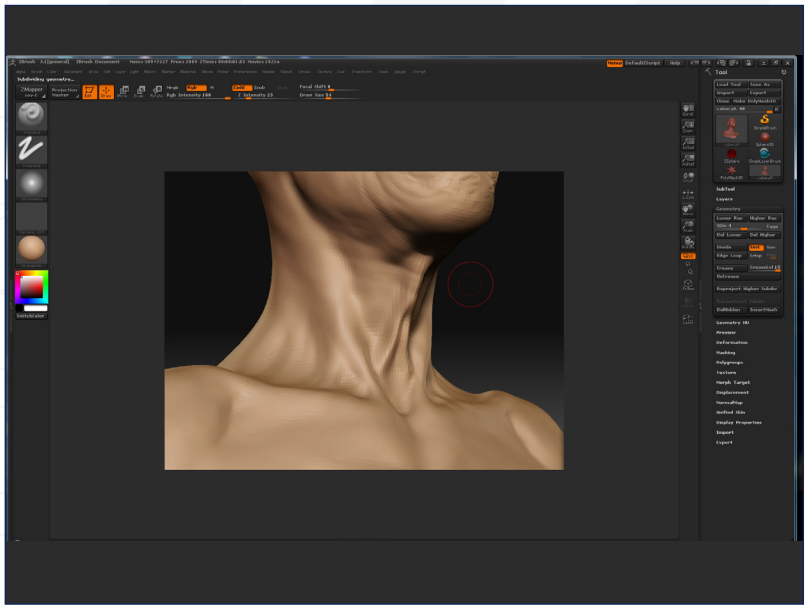


Fig.41

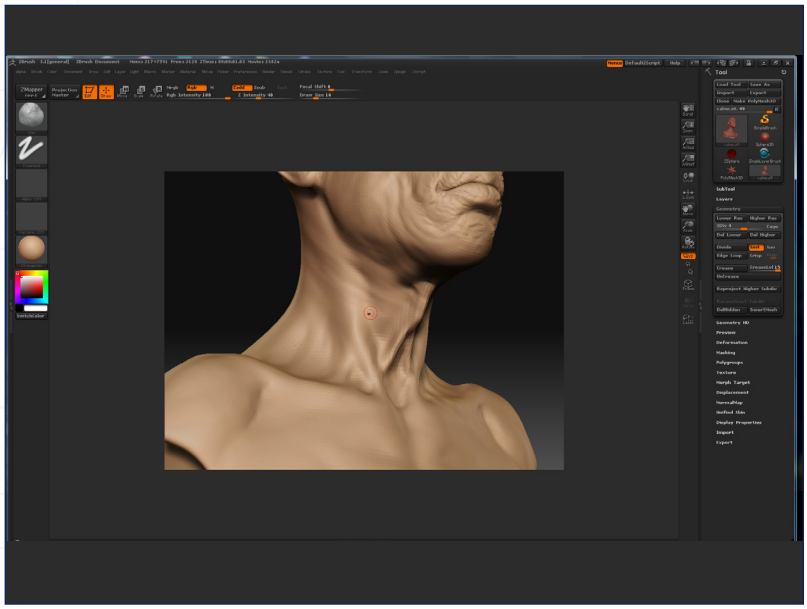


Fig.42

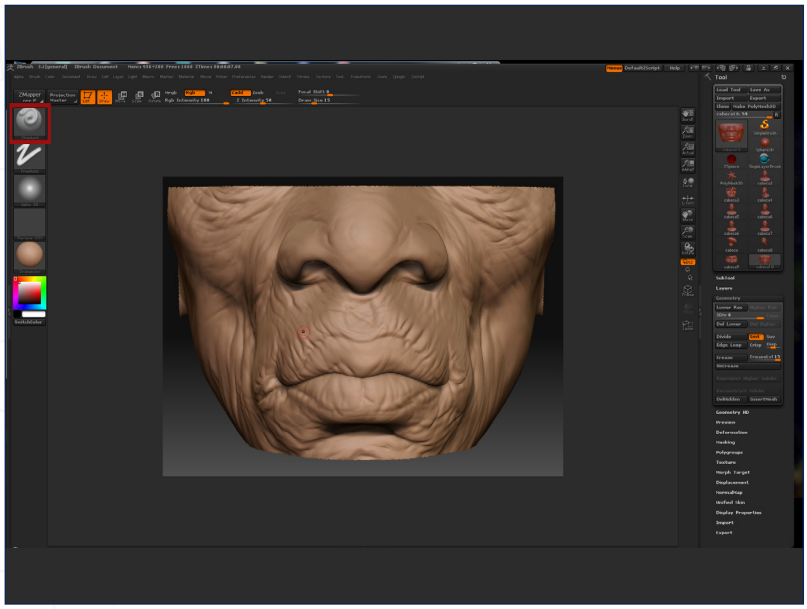
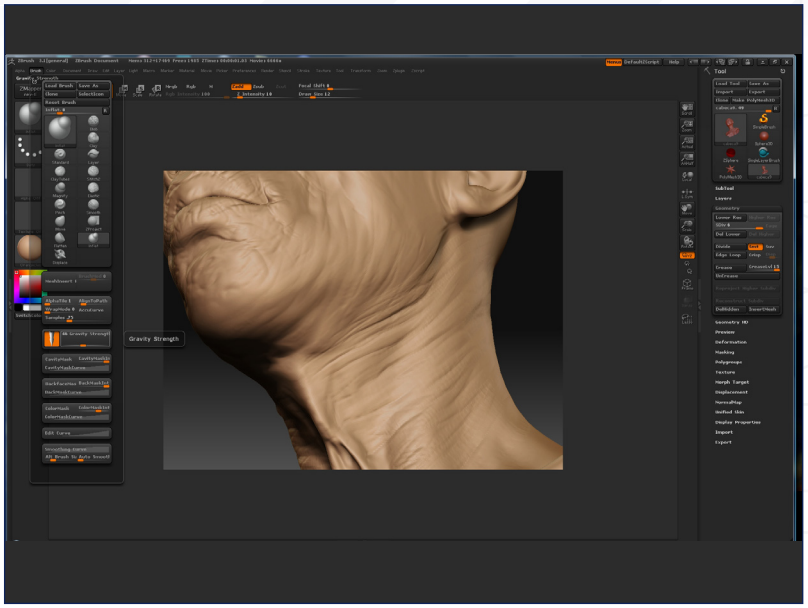


Fig.43

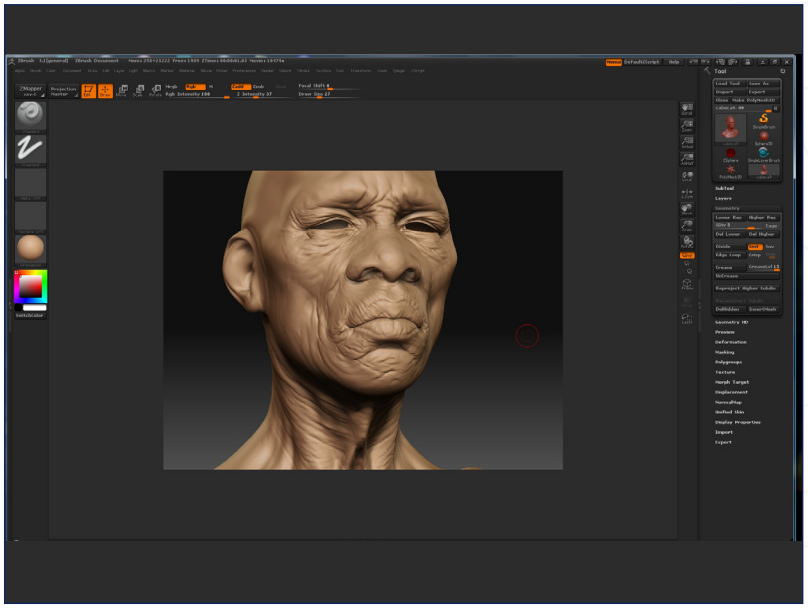
A very good option, although not very popular, is the Brush's gravity strength (**Fig.44**). This is a very useful option to achieve the desired weight on wrinkles, and I usually set this strength to around 20 or 30.

Fig.44



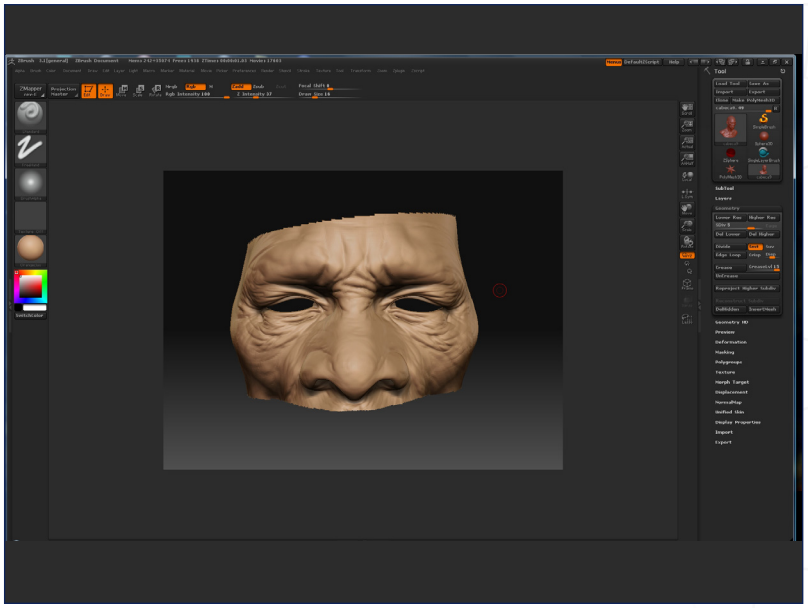
At this point I can start to refine the details, here using the Standard brush with the Alpha 38 and the Inflat brush with a low intensity of around 8 (**Fig.45**). It's always good to turn the symmetry on and off to achieve a more natural result when sculpting. With the Standard brush I start to create the wrinkles (**Fig.46**) and with the Inflat brush I can give a more natural look by shortening the distance among some of the wrinkles. I use the same treatment all over the face, always paying attention to the flow of the wrinkles (**Fig.47**).

Fig.45



It's also often useful to use the Lazy Mouse function with a low radius, but it's important that you work on each wrinkle individually, in order to achieve a very natural result. The Lazy Mouse gives the artist more control over their brush strokes, allowing you to work with a greater degree of refinement than just by hand alone.

Fig.46



Note: 'LazyRadius' sets the length of the 'string' connecting the cursor to the drawing point; the longer the 'string', the more precise the stroke, but the further you'll have to move your hand to make it!

In this case a low radius is good as it provides more control without the limitations of a higher radius.

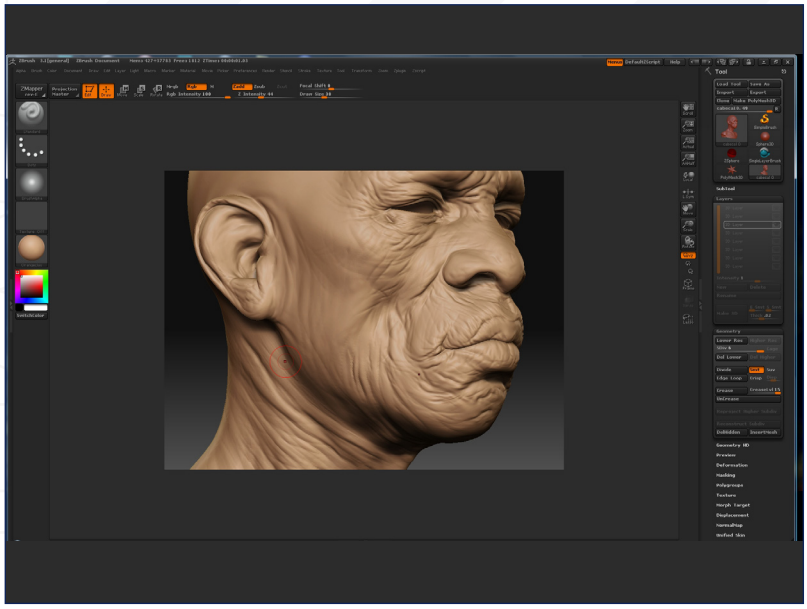


Fig.47

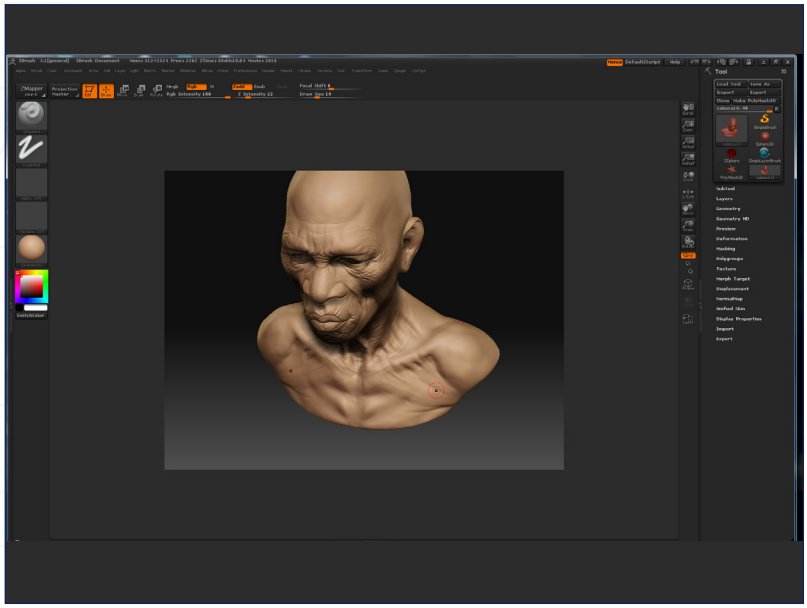


Fig.48

I go with this process all over the model (**Fig.48**) using the Standard brush, but for bigger wrinkles, like the ones on the neck, I step down 2 subdivision levels to get a better control over the general form (**Fig.49**), and then I step up the subdivision level again to work on the wrinkles' cavities (**Fig.50**).

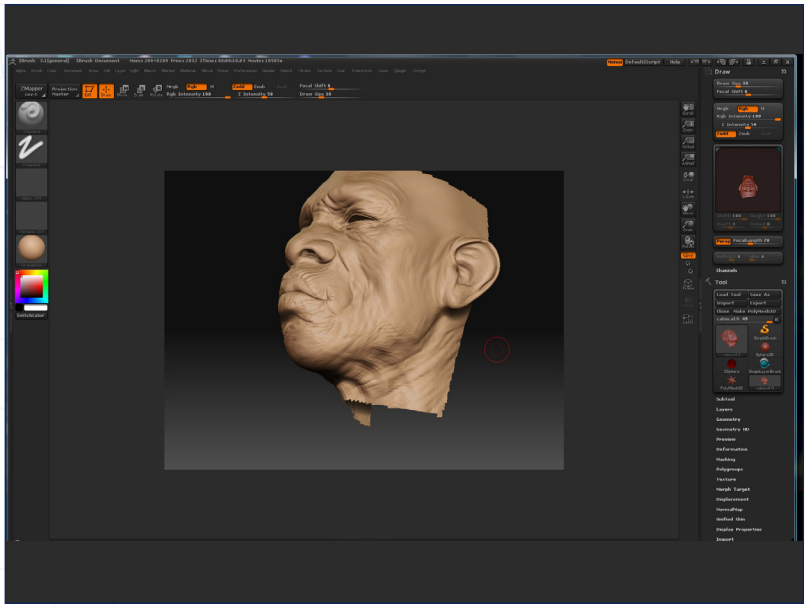
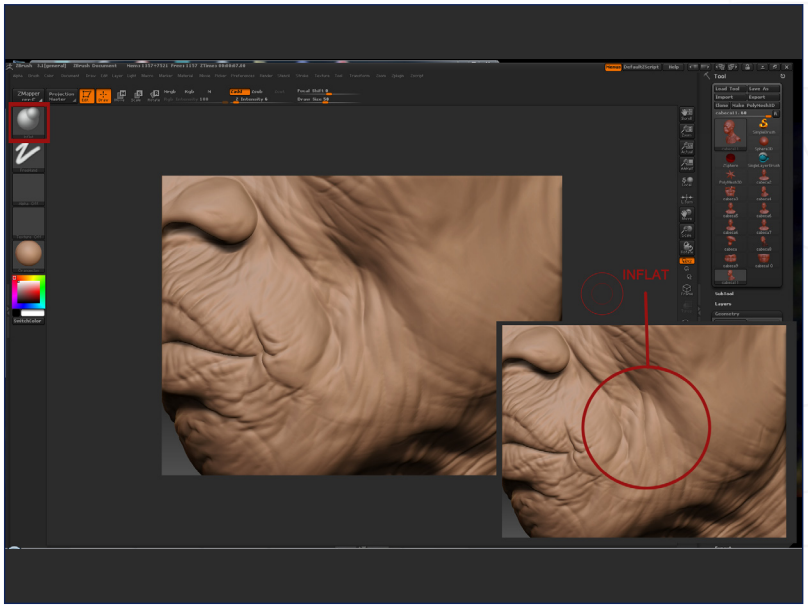


Fig.49

Fig.50

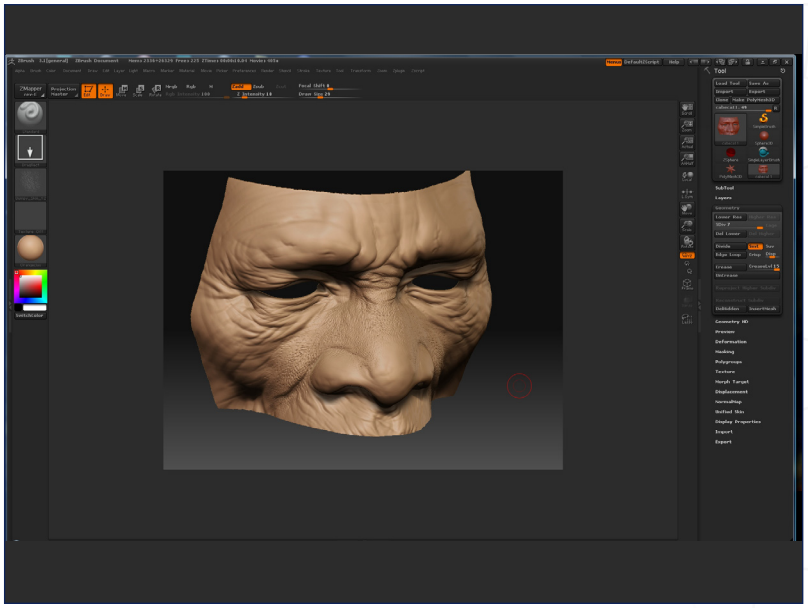
After finishing all the wrinkles I go in with the Inflat Brush (with a very low intensity and a very high radius value) all over the wrinkles to shorten the distance among the wrinkles' borders, to give them more weight. The Inflat brush expands the geometry by pushing vertices along their own normals. I therefore find it very useful to use this brush on the wrinkles as it gives them a more realistic form. **Fig.51** shows the before and after effects of using the Inflat brush on wrinkles.

Fig.51



With the wrinkles all done, it's time now to use some alphas in order to add some more details, like the pores and small imperfections found in old, dry skin (**Fig.52**). I start the process by using the Standard brush and changing the stroke type to DragRect. For this particular work I found one of the Aaron Simms alphas (included in a Gnomon Workshop DVD) really useful. But basically, alphas can be made from photos in Photoshop and used for certain parts, like the pores for example.

Fig.52



Note: To import an alpha into ZBrush, first of all in Photoshop you simply desaturate your photograph, or a part of the photo, and correct the Levels. You can then save the file and open

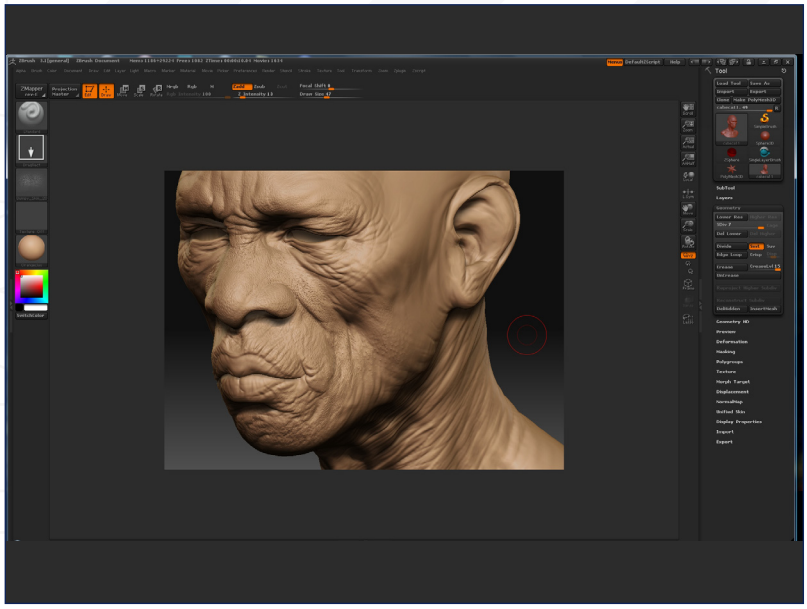


Fig.53

it in the Alpha palette.

The best tip here is to be very calm and patient when placing the alphas according to each part of the face, because each part has its own pore direction (**Fig.53 – 5**4), so use references to ensure that you're achieving a natural look.

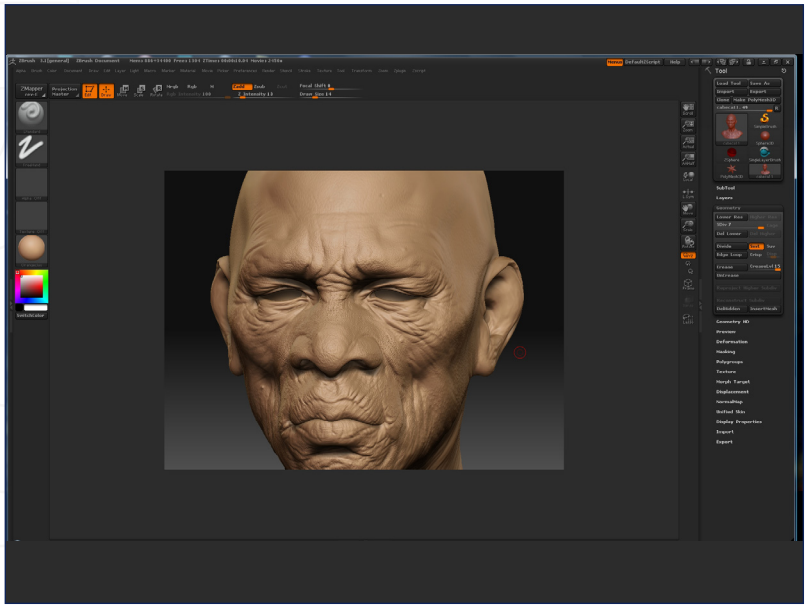


Fig.54

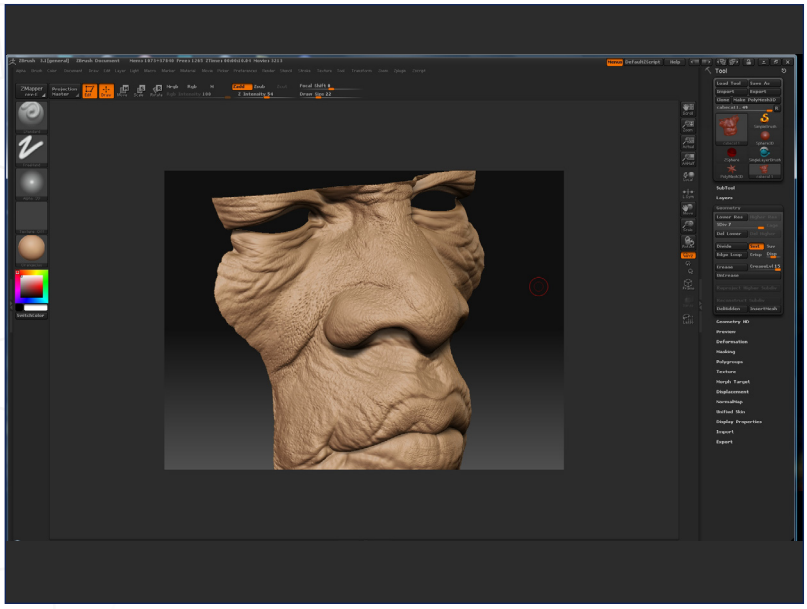


Fig.55

The ideal method is to work on a new layer here, as this way you can adjust the intensity or simply remove any areas you don't like. To create a layer it is very simple: in the Tool palette go to Layer > Create layer. Layers are a very good option if you want to make some modifications that may affect the whole model. In the case of this work, if I put some Alpha in the wrong place and try to smooth it, I would then lose some of the wrinkles as well. So I create another layer here to change the symmetry (**Fig.55 – 56**), because there's rarely someone with a totally symmetrical face, and a symmetrical face can cause a kind of synthetic feeling.

Fig.56

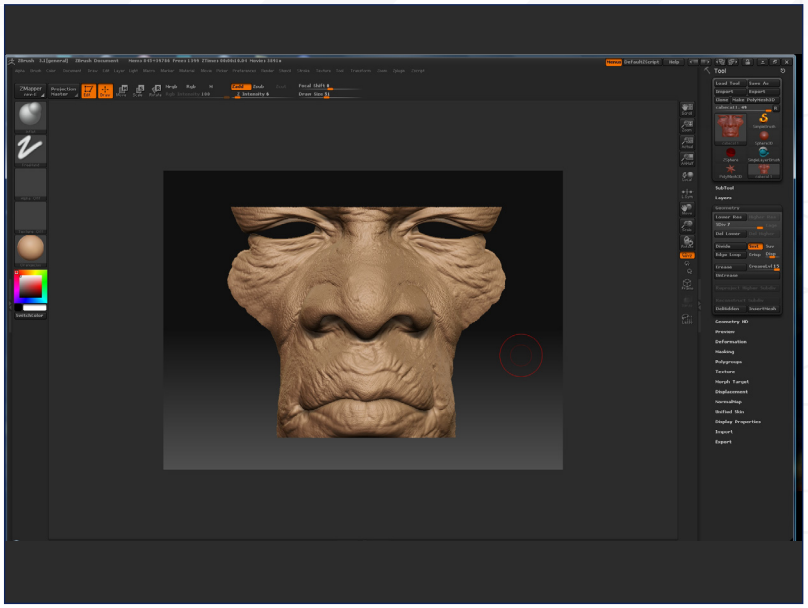
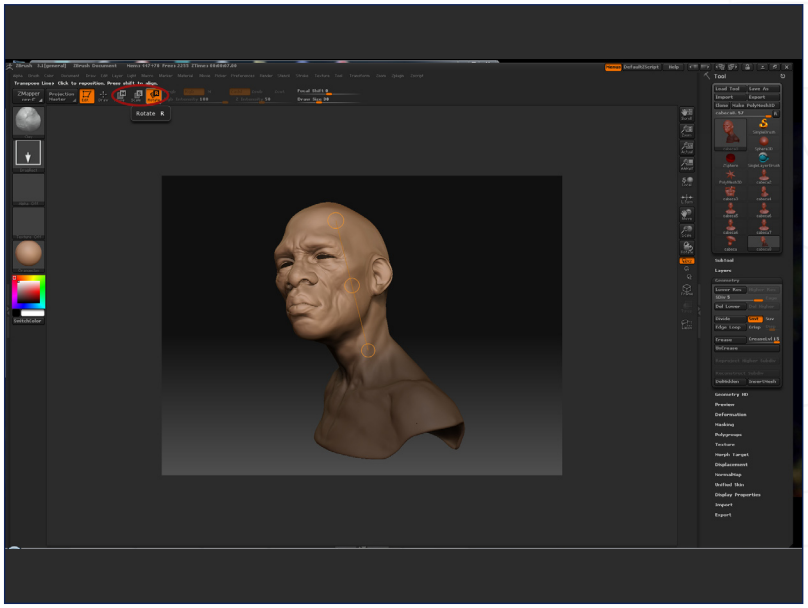


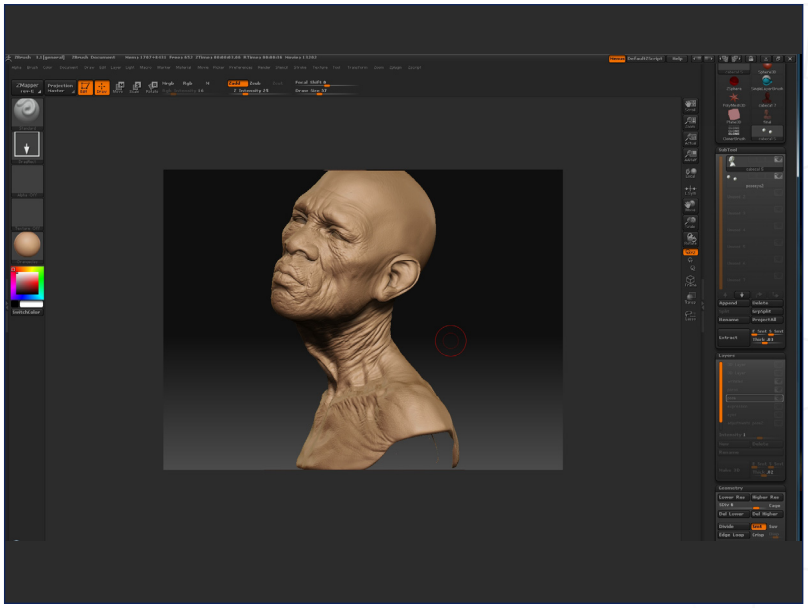
Fig.57



You can see now that I have eyes in the model's head (**Fig.57**). Well, for the eyes, these were created in another 3D package and imported into ZBrush as a Subtool. Subtools are very easy to add to your model in your scene; first of all you have to import the eye into the Tool palette, and then if you go into the Tool palette and select the face in the Subtool palette, and then click Append and select your eye, the eye Subtool should appear in the scene with your head (Append only finds the tools that have already been imported!).

Here I create a new Layer and with the Transpose tool I pose the character to make it look more alive (**Fig.67a – b**). In this particular case I use the Transpose Master plug-in so that I don't need to move the eyes which I have already added to the head sculpt, because the eyes are separate Subtools. The Transpose Master can be found in the ZBrush central forum. This plug-in merges all Subtools and allows you manipulate all Subtools together – without it you will need to move all the Subtools separately!

Fig.58



On another new layer, I make some adjustments so that the pose looks more natural. I add some new wrinkles now because, when I rotated the character's head (**Fig.58 – 59**) it forced the skin to have some kind of deformation in some

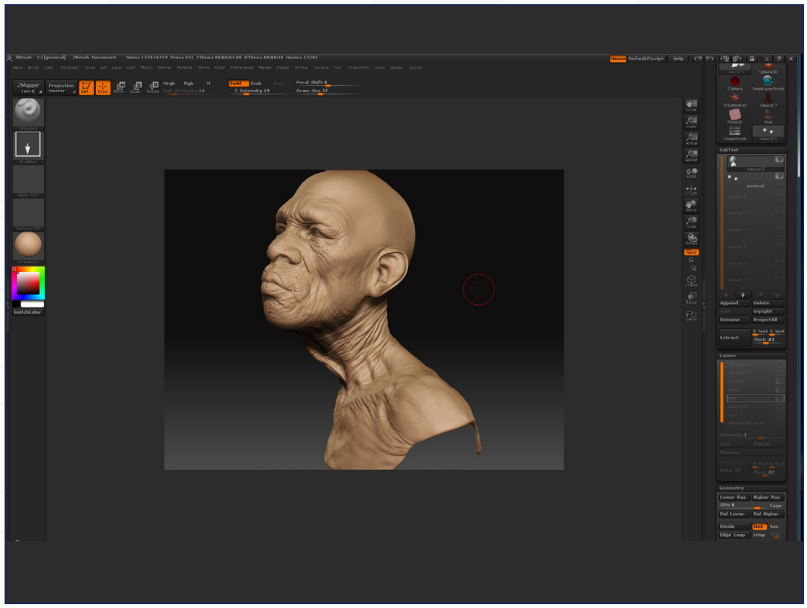
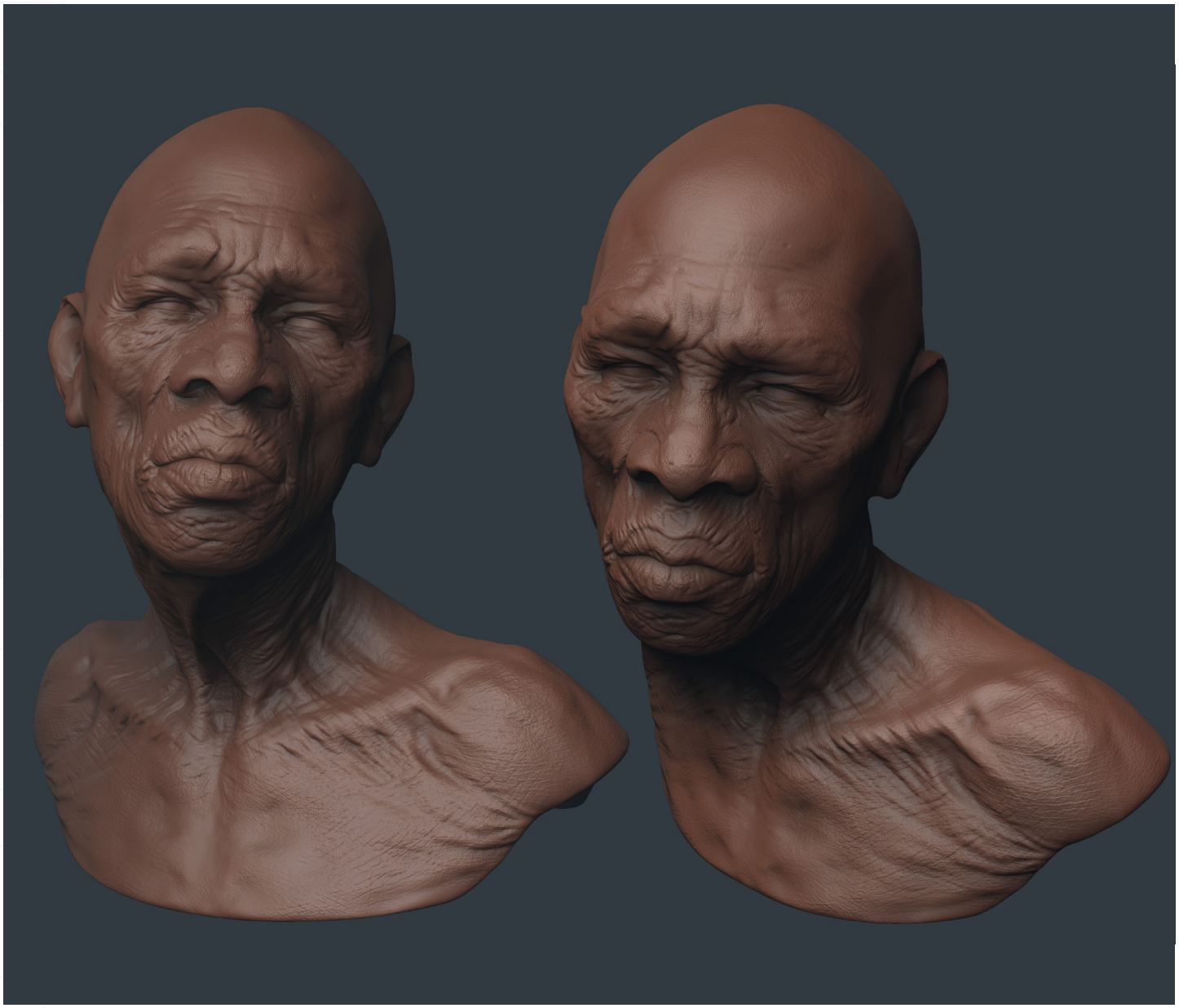


Fig.59

places that weren't previously modelled, so I have to fix this here before I can move onto the texturing stage (**Model.01**).

Model.01



TEXTURING

Now, with the modelling process finished, it's time to start the texturing process! There are many options in which to create a colour texture in ZBrush, but for this character I decided to go for a technique which is based on the projection of images over the model. To do this, I work with the Projection Master, and so I turn off ZBrush's perspective to avoid any texture distortions on the model. The Projection Master is a solution used to paint details, colours or materials onto the model, using any or all of ZBrush's 2.5D painting tools and other 3D objects. It will project anything you paint directly onto the mesh below. Because of this, it is important to position your model so that the area you're working on is facing the camera as directly as possible!

First of all, it's very important to change the material of your model to a white one so as to make sure you're painting the correct colour as you go (**Fig.60 – 61**). At this stage, I also create a new texture (4096 x 4096 pixels) for the next stage (**Fig.62**). This texture was created and added to the texture palette, and with Projection Master I can then simply project some parts of my skin textures onto my model.

Fig.60

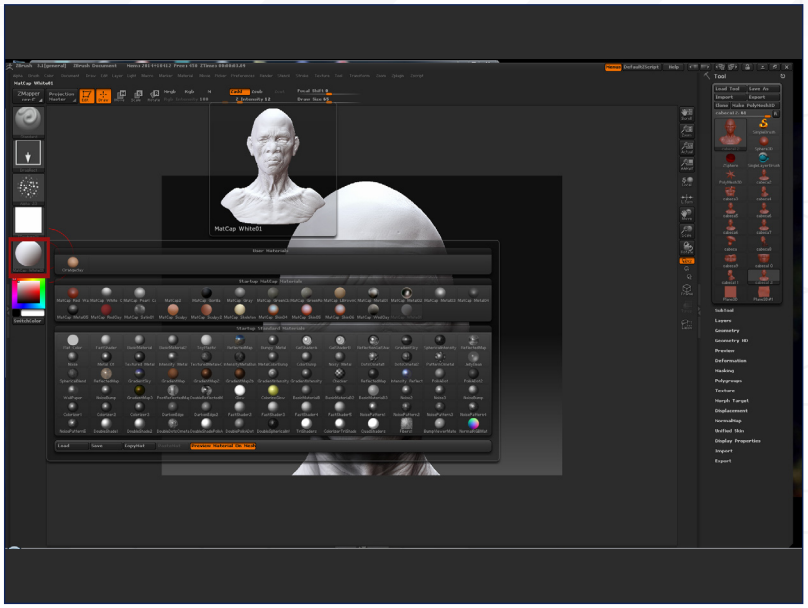
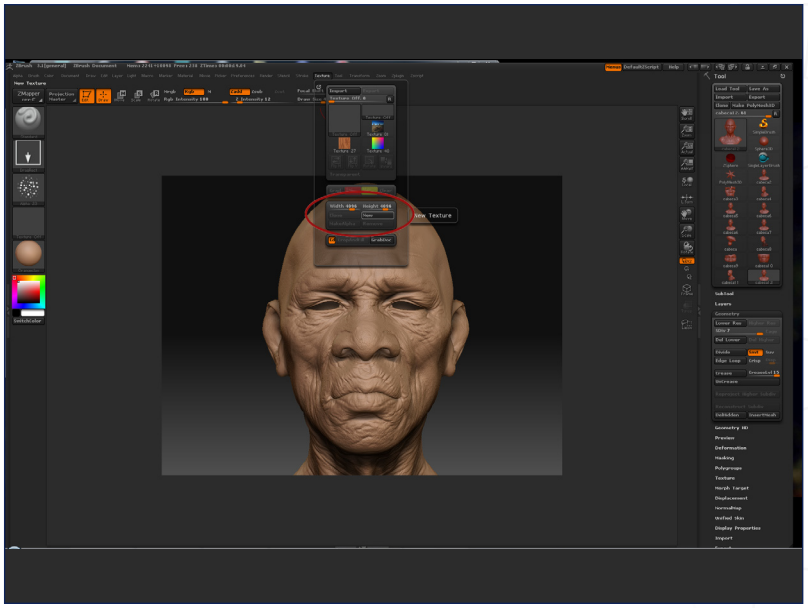


Fig.61

Fig.62



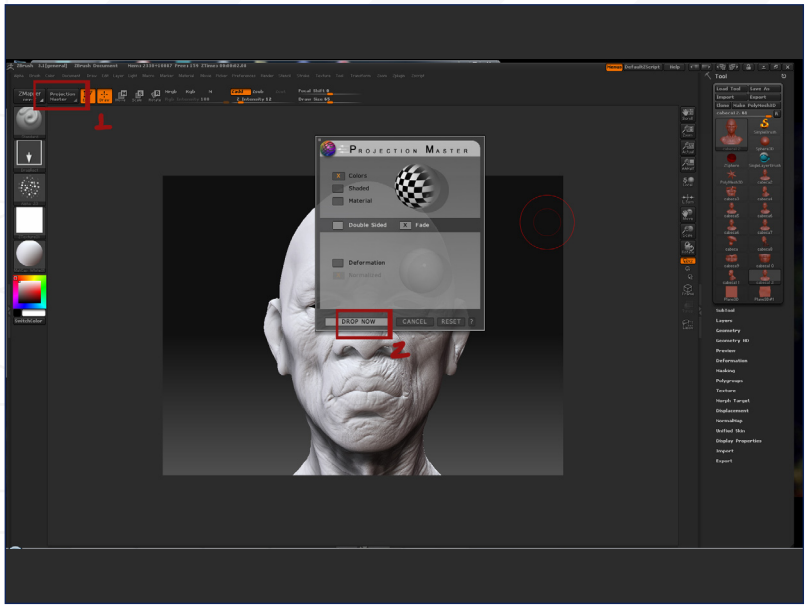


Fig.63

By pressing the “G” shortcut I go to the Projection Master mode, and as I’m going to paint only colour information I just simply selected the colour and fade options (**Fig.63**).

Fig.64

Inside Projection Master I open up the Tool palette and select the Plane3D object (**Fig.64 – 65**). With this technique I select a plane tool and apply one skin texture, simply selecting the image in the texture menu. I later decrease the Zadd so as not to create displacement with the plane. The RGB will be on, so I can project the image onto the model and can adjust it similarly to how you would when using the Liquify tool in Photoshop.

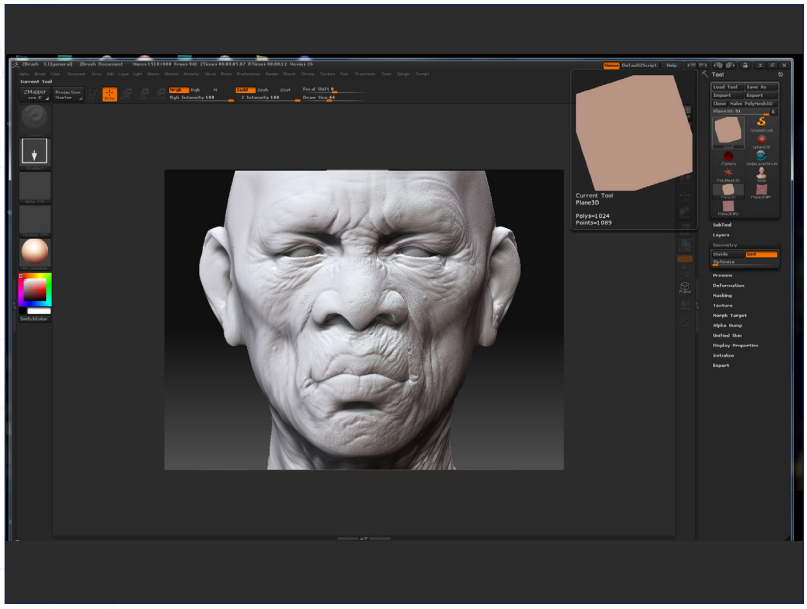
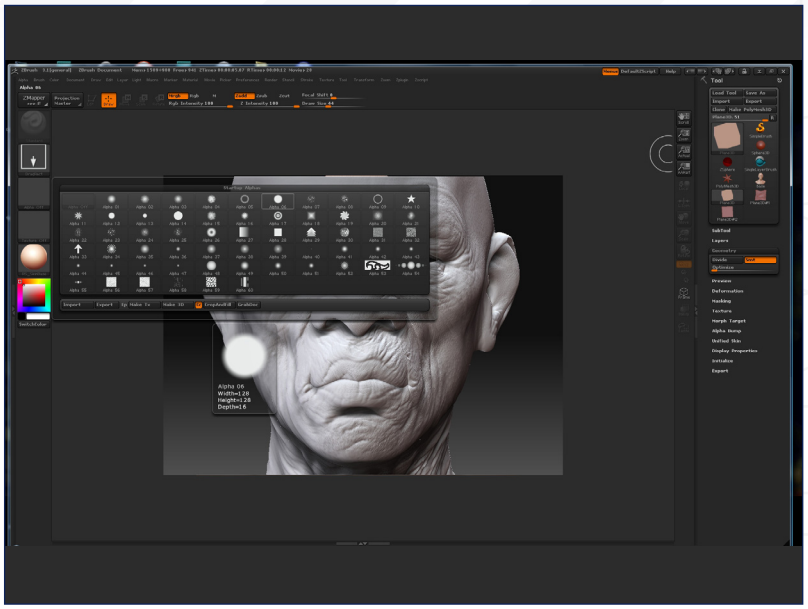


Fig.65

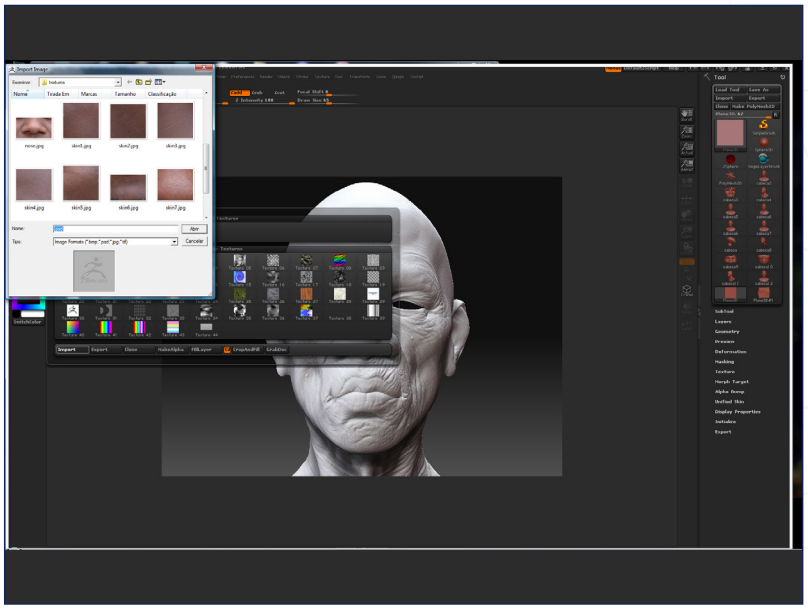
I then select an alpha with soft borders (**Fig.66**) and choose, from the Texture palette channel, the image I want to project onto the model. For this project, I've created a library with some interesting skin tones for my character. These images have all been selected from the Internet and cropped to select just the interesting parts. I can simply import my images into ZBrush (**Fig.67**).

Fig.66



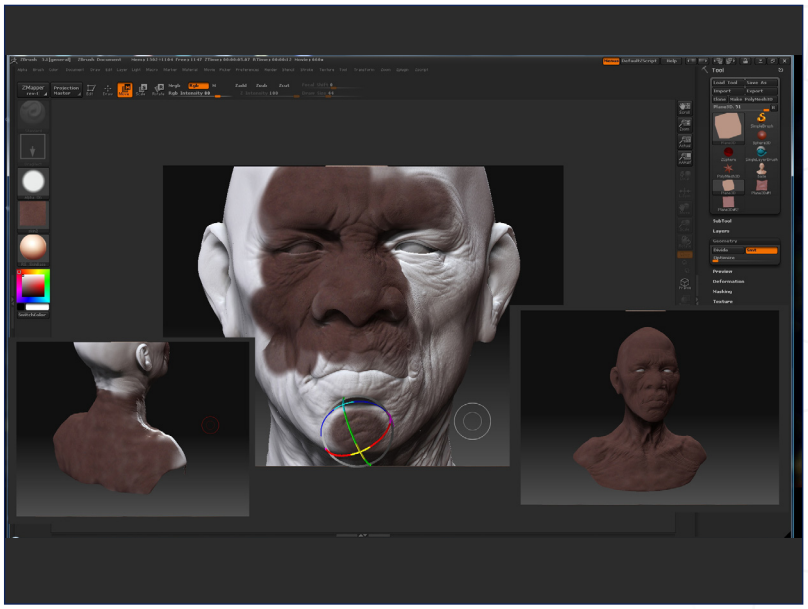
Before starting to apply the textures, it is necessary to lower the Z Intensity value to 0, or else the Projection Master will project the deformation of the 3D Plane. I also lower the RBG Intensity to block in the initial skin tones. This is similar to when painting in Photoshop; in ZBrush, if I lower the RGB intensity then the section of the model that I'm painting will be less intense, just like in Photoshop when you reduce the opacity. I use a 0 value of Z Intensity because I don't want to paint the Z information, only colour information (**Note:** Z information is the displacement information).

Fig.67



Here I start to apply colour to my model (**Fig.68**). Basically, the Plane tool is configured to its default settings with drag in the stroke, and so with this option you can drag images or alphas onto the model.

Fig.68



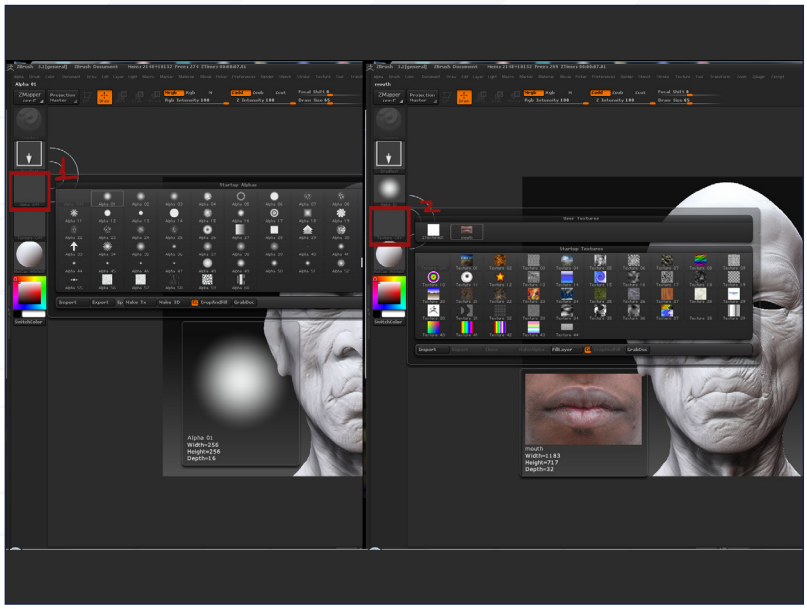


Fig.69

After blocking the skin tone in on the whole model, I start to define some more specific areas, like the mouth, and start to add some variations in the skin tones. In the case of the mouth I project the information in the same way (**Fig.69**), but I turn on the Edit button and then the Move Tool so I can make some modifications on the projected image (**Fig.70**). This is basically using the same process as before, but in this case I select the mouth area of the model and with the Plane tool I apply it like another object, and make adjustments using the Move tool. Later, when I click G again (click on G to go out of Projection Master), everything that is on my model will be projected onto him (**Fig.71**).

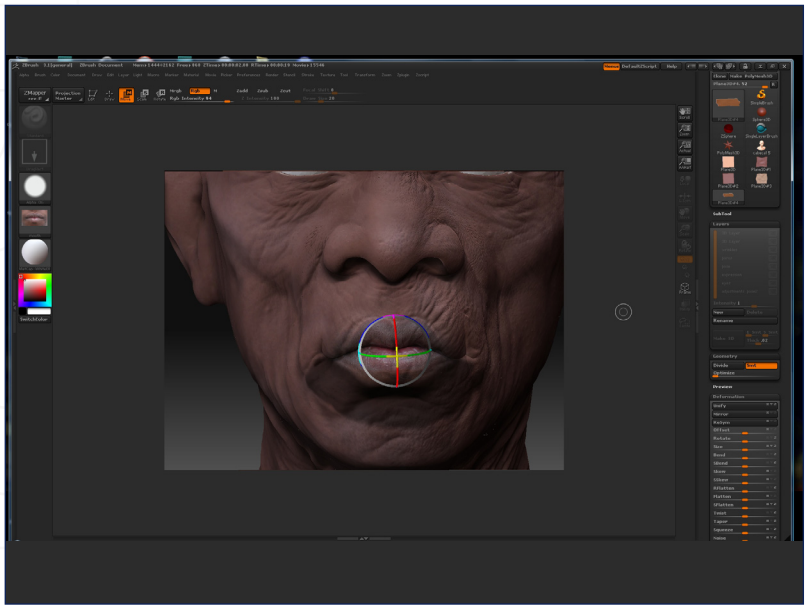


Fig.70

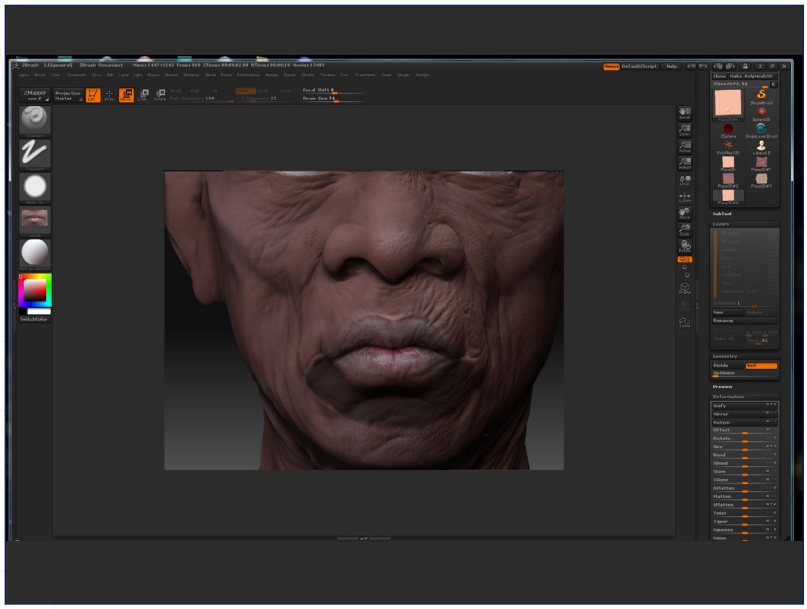
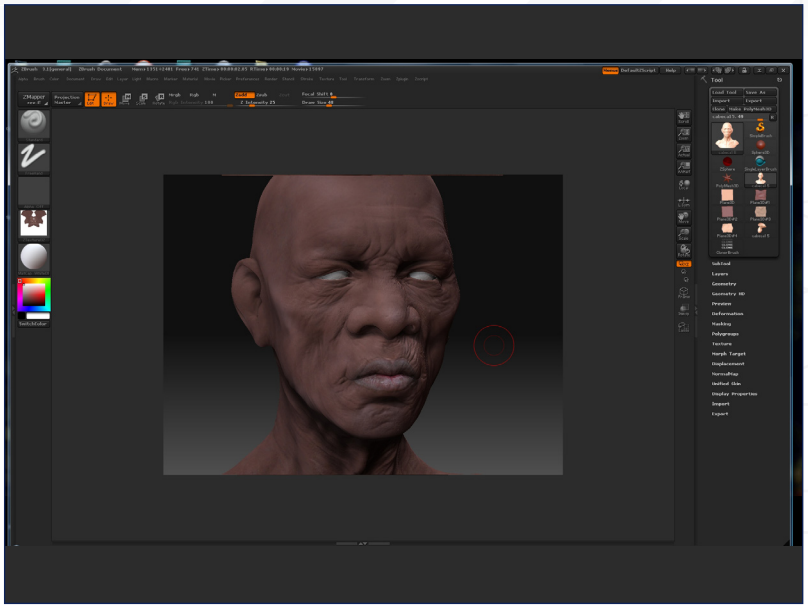


Fig.71

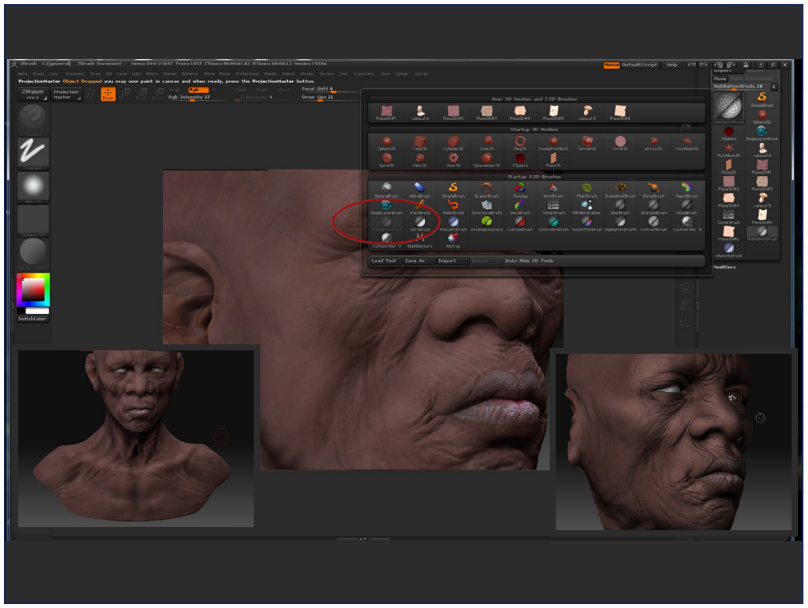
I then start to project some other images from my library to change the colour of some other areas, like the nose, cheek bones, forehead, and so on (**Fig.72**).

Fig.72



Another very useful tool is the Highlighter brush, from the Tool Palette (**Fig.73**). With this brush I can highlight some areas and, by pressing the Alt key, I can darken other areas (**Fig.74**).

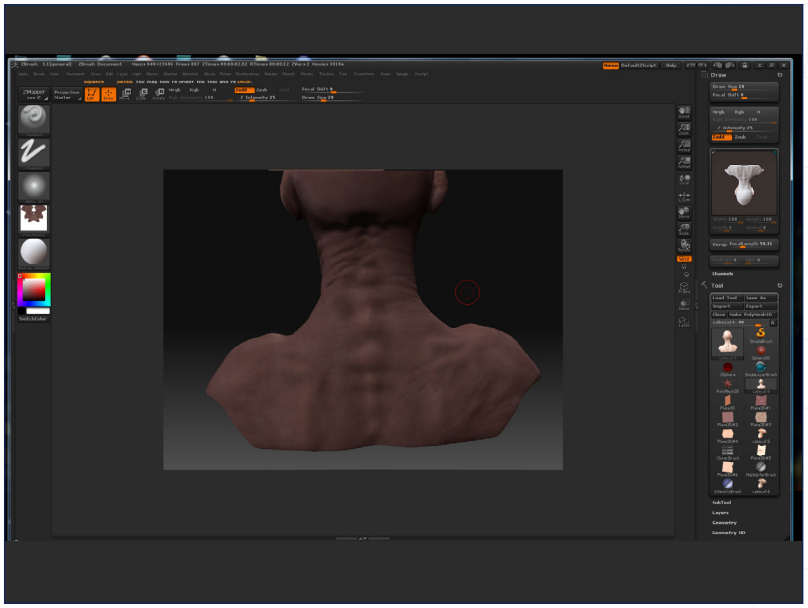
Fig.73



With the texture adjusted I can then start to insert some minor details, like spots and skin stains (**Fig.75 – 76**). The spots and skin stains I can add in the Projection Master again, but this time I select a simple brush in the Tool palette and select the stroke colour spray, and then in the alphas I select a small alpha like 44 or 45. This tool is great for adding smaller skin stains. I can adjust the radius of the brush to achieve different areas of stains.

Once the texture is finished I can create a mask based on the texture intensity (this option is located in the Mask palette in the Tool palette). With this feature I'll have a mask based on the texture colour variation so I can use the Inflat brush to transfer some texture details to the high poly model. I use this technique to build some more information on the mouth.

Fig.74



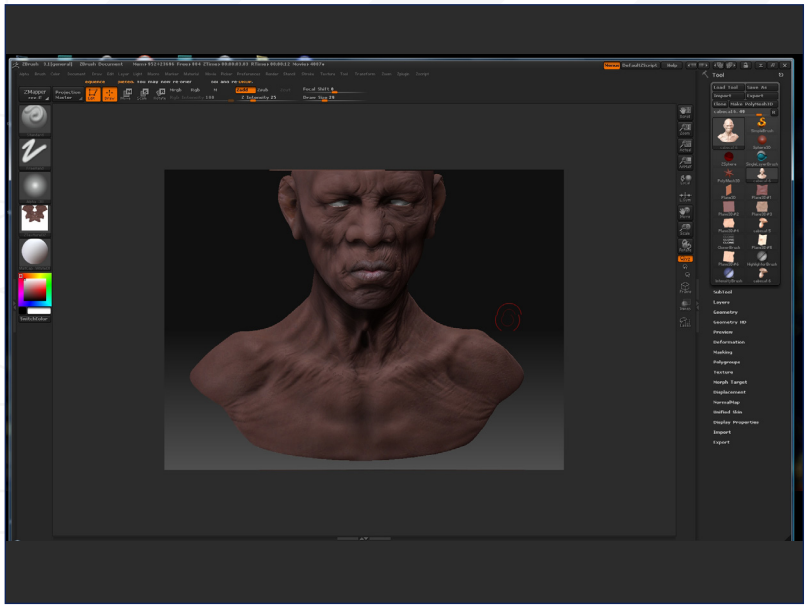


Fig.75

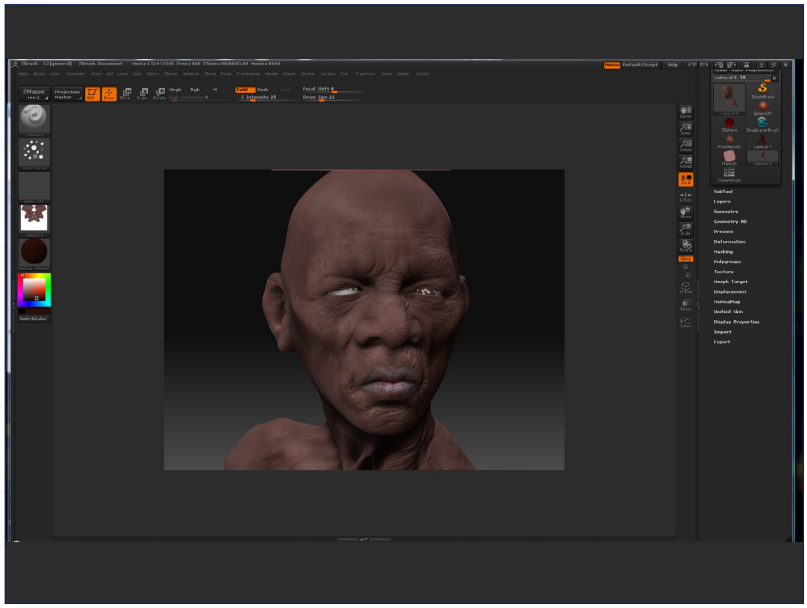


Fig.76

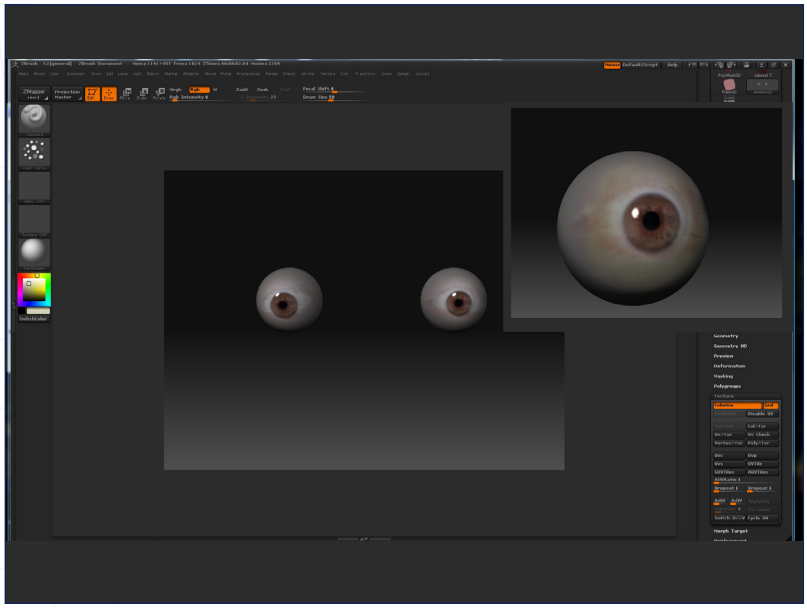


Fig.77

With regards to the eyes, I create them using the same process as for texture painting the main model; I prepare an eye image and then project it over an eye object (**Fig.77**). I then paint some colour variations and veins to get a natural-looking result. And here, at this stage, the model is finished (**Fig.78 – 79**).

Fig.78

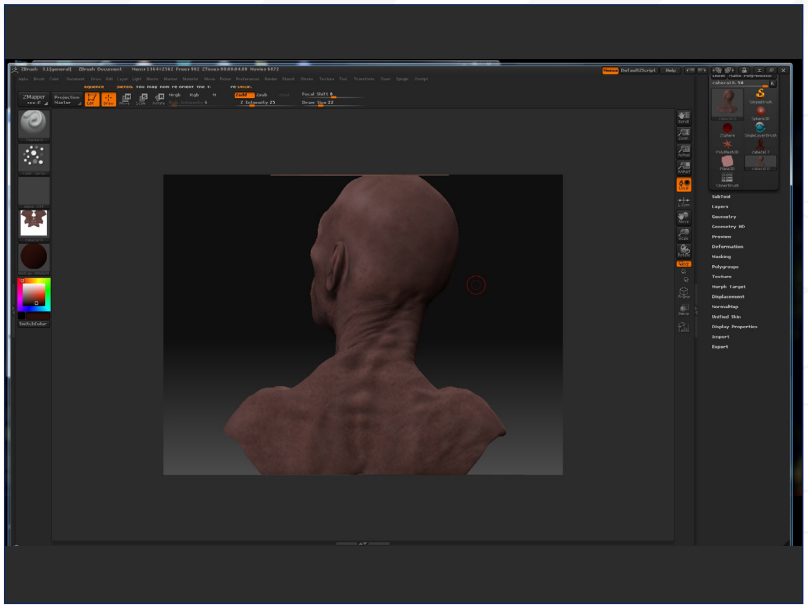


Fig.79

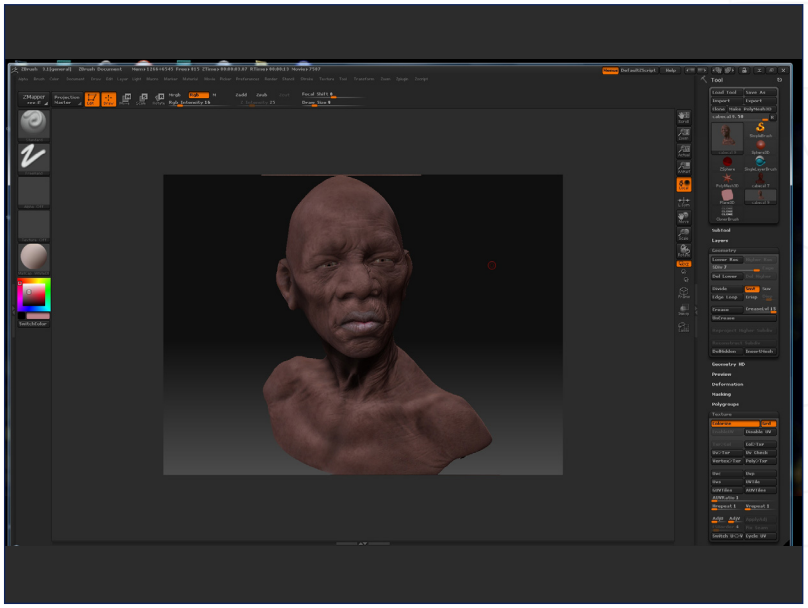
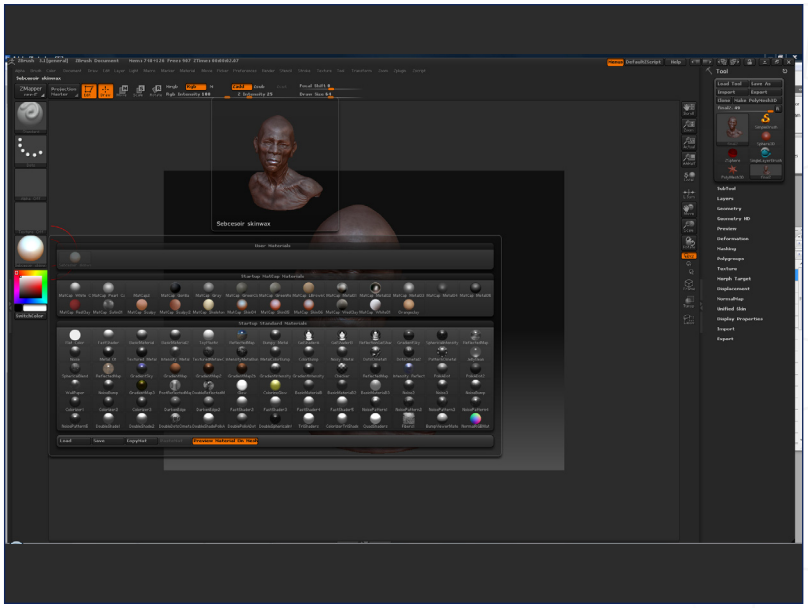


Fig.80



Here I apply some different materials and make some render tests to check out the final result. In the case of this image, I used a great "skinwax" shader made by Sebastian Legrain Sebcesoir (**http://sebleg.free.fr/**), for the final render (**Fig.80**).

Fig.81

In the lighting setup, I turn off ZMode (with ZMode off I can concentrate the shadows), and increase the rays to 218 and the shadow length to 500 (**Fig.81**). These adjustments are made really only to create the shadows and to enhance the aspects that I personally like. So I'm basically controlling the intensity and aperture of the shadows here to get the desired results for my own personal tastes.

Final.01

And all is done (**Final.01 – 03**)! I hope you like it. See you next month for the creation of an obese character!

RAFAEL GHENCEV

For more from this artist visit:

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Final.02

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Final.03

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MAKING OF BY NICOLAS COLLINGS

WOLVERINE TRIBUTE

Character Modeller Nicolas Collings guides us through his tribute to a true comic book hero “Woverine.”

“IF YOU’RE WONDERING WHY I CHOSE TO RECREATE WOLVERINE, WELL IT WAS EASY: HE’S SIMPLY ONE OF MY FAVOURITE COMIC BOOK CHARACTERS OF ALL TIME!”

WOLVERINE TRIBUTE

Created In:

ZBrush, 3ds Max, Photoshop

Introduction

First of all, let me first introduce myself: my name is Nicolas Collings, I was born and raised in Belgium, I'm 25 years old, and I'm a character modeller who has just been hired by Ubisoft Montréal.

The 3D sculpture that I'm going to talk about in this article was initially created for the challenge "Real-Life Cartoon" Speed Sculpting Challenge on the 3DTotal forums. The theme for this challenge was simply to try and re-create a real-life cartoon character. I completed the bust in four hours (which was the time allocated for the challenge!), but I later decided to turn it into a final image, in order to practice my texturing and rendering skills. So I grabbed my file and worked on it again, and it took me about one day to finalise the image. Altogether, it was a very fast work, but I actually really enjoyed that aspect of it. And if you're wondering why I chose to recreate Wolverine, well it was easy:

Fig.01


Fig.02

he's simply one of my favourite comic book characters of all time!

Modelling

I usually start by creating a base mesh very simply, composing it of just a few hundred polygons, but in this case we had to specifically use a given base mesh for the challenge. This way, everybody had the same base to start from. The time allocated for the modelling process, as I've already mentioned, was only four hours, and so to start things off I had to study my references very carefully. When I was ready, I fired up ZBrush, imported the base mesh, and got started on the digital sculpt! There were some simple rules to follow, as you might expect: blocking the main masses and forms in first, to get the overall form looking correct from as early as possible; always setting the brush to a low intensity to avoid "blobby" effects; being sure to go as far as possible in the current level before subdividing the geometry a step further; and finally, not being afraid to smooth out details in order to refine or re-work an area.

On a higher level of subdivision, I started to add details on other layers. The system of layers is really efficient as it enables you to manage multiple layers of detail individually. You can make different tests directly onto the same model and afterwards decide which one you want to keep, or tweak the intensity of the layer for instance (**Fig.01**).

As you can see from **Fig.02**, I sculpted the initial bust in full symmetry. In my mind, I wanted it to be a digital sculpt concept that another artist could use as a reference, instead of using a typical 2D drawing with front and side views. After second thoughts, I decided to push it a bit further by adding some textures to get a final illustration look to it. To do so, I had to prepare a few things, which is what I'm going to talk about in the following sections of this article.

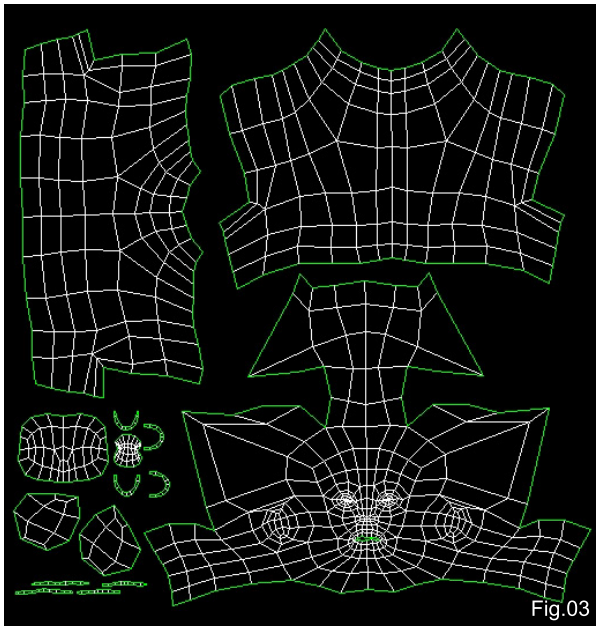
Fig.03

Fig.04

Fig.05

Texturing

At this point I had a clean symmetrical bust, but in order to put some textures on it I had to un-wrap the UVs. To do this, I used 3ds Max. I exported the first level of my sculpt in my 3D application, un-wrapped it (**Fig.03**), and then re-imported the mesh back into ZBrush. At

this stage I had my model with clean UVs, and still had all the levels of subdivision available. I could therefore now start to create the texture.

For the skin area on the face, I used a combination of projection master and the image plane plug-in. This helped me to project some photos of real skin samples onto the model. This technique is a really efficient way of quickly achieving a realistic look (check this video out if you're interested: **http://www.zbrushcentral.com/zbc/showthread.php?t=33715&highlight=ZBrush+Learning+Series**).

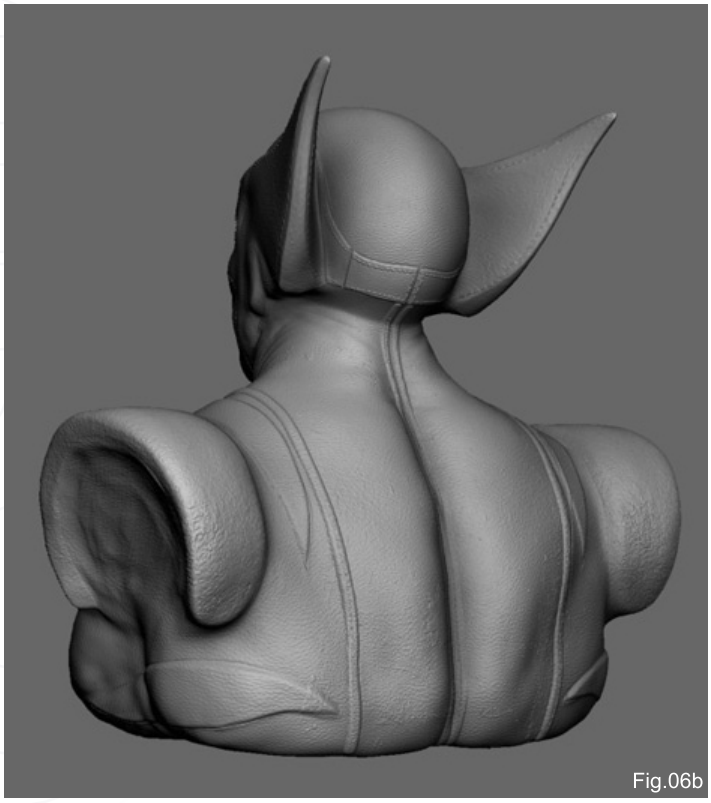
Fig.06b

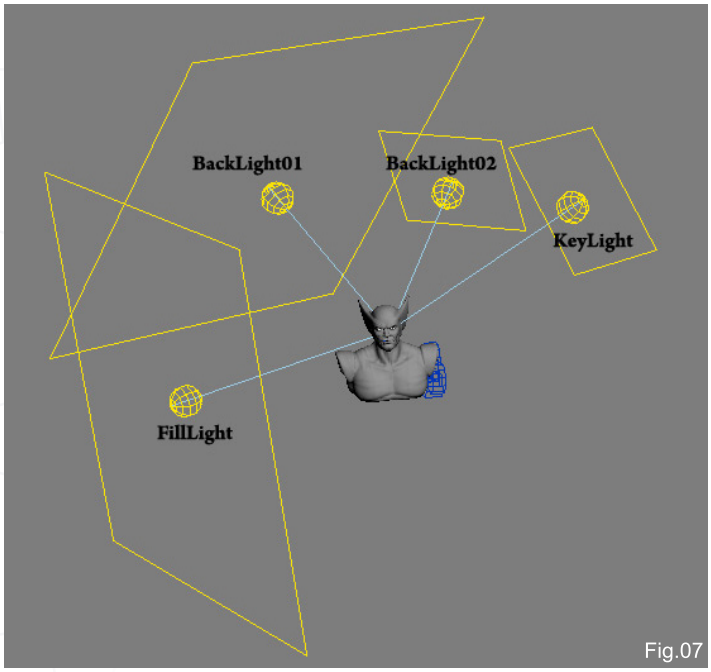

Fig.07


Fig.06a

The leather suit was nothing fancy; I simply used Photoshop with a couple of leather and dirt map images. Once my texture was complete I applied it to my model inside ZBrush, in order to catch all of the micro details from the diffuse map on my model. To do this, I used a little option in the tool palette called "Mask by Intensity" (**Fig.04**). I pressed this button to mask all of the deep micro details. I then stored a morph target (**Fig.05**), and on a new layer I applied a general inflate of five, followed by a smooth of 10 – about four times successively (see **Fig.04**). Then, since all the information had been added on a separate layer and because I stored a morph target, I was able to tweak the general intensity of the details, and I used the morph brush to tone down the area which was too inflated.

The final render was done in 3ds Max, so I also baked a displacement map, a cavity map and a normal map inside ZBrush.

Posing

At this point, the time came to pose the head and break the symmetry (**Fig.06a & Fig.06b**). I used the powerful tool called "transpose" for this, which is really easy to use and helps you to quickly move, scale and rotate any part of your model (I advise you to check this link to learn more about it: **http://zbrush.info/docs/index.php/Transpose**). Thanks to the ZBrush Subtools, I was also able to add a new object – the cigar – to add a bit more action to the illustration!

Rendering & Compositing

Eventually, I had all of my assets ready. I decided to render the model with Mental Ray and photometric area lights. I imported the level three from ZBrush inside 3ds Max, created the SSS fast skin shader with all

Fig.08

my maps, placed four lights around the model with different intensities (one key light, one fill light and two back lights – see **Fig.07**). I then rendered three passes: full render, ambient occlusion and Zdepth (**Fig.08**), and I composited the passes in Photoshop in order to achieve the final look of the image. During this step I also used some tricks to achieve an illustrative look, such as a Colour Balance layer (which was important to add a general mood to the image), a little noise grain, the Unsharp mask filter, and finally a lighting effects filter.

Conclusion

Well I hope you've enjoyed this making of and perhaps you've even learnt a few tricks. This image was created as a training exercise, and so a lot of things could have been done better or differently, but I'm still pretty happy with how it turned out in such a short period of time. If you have any questions, please don't hesitate to contact me via email. Thanks for reading!

Nicolas Collings

For more from this artist visit:
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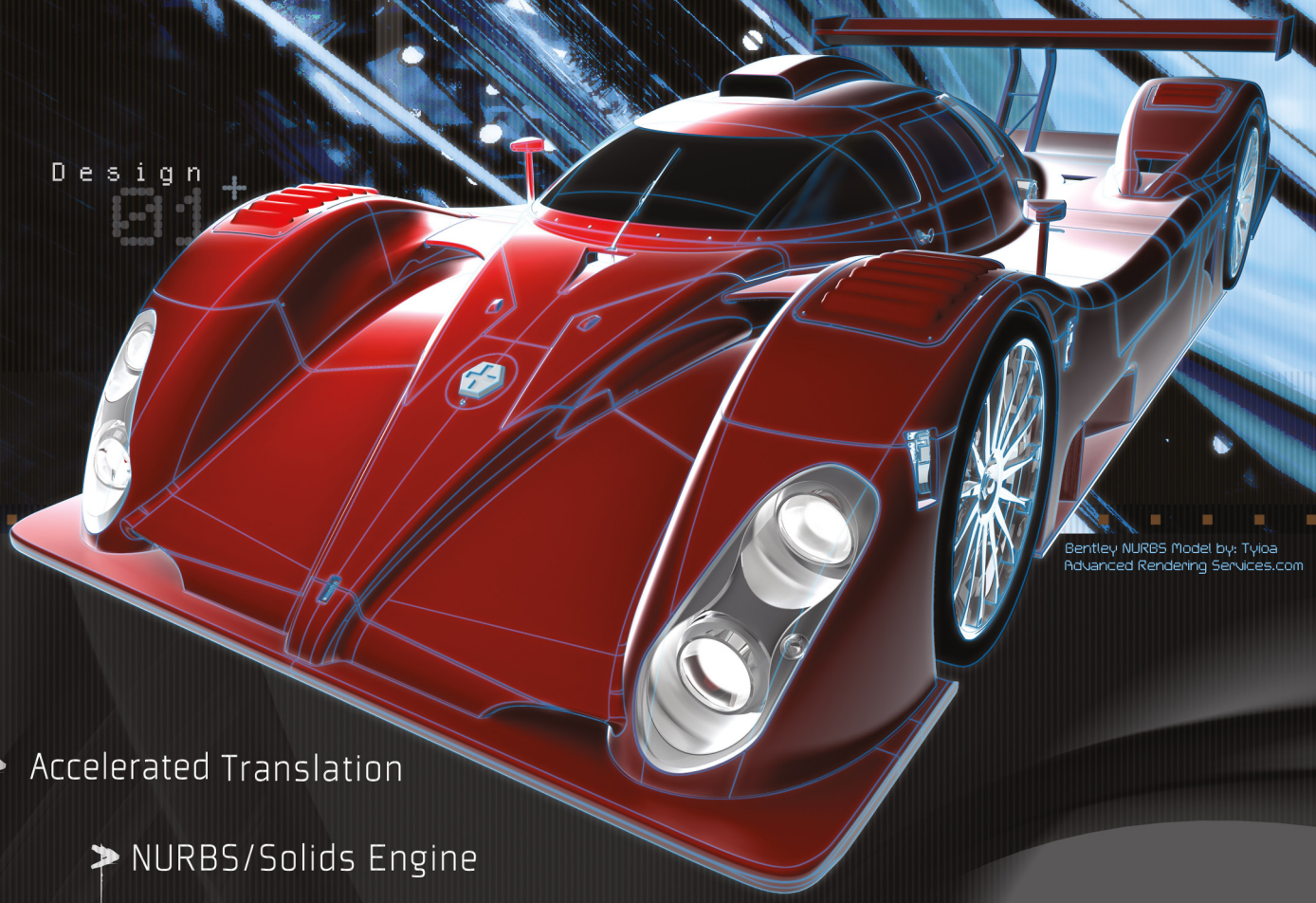

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"Texturing was the main part of this work; it gives the life and reality to your scene, and the right lighting will also add to the mood of it!"

Palestinian artist Esam Darweesh explains how he created his piece "Back in Memory" ...

Making of by Esam Darweesh

Back in Memory

Back in memory

Fig.01

Introduction

Hi there, my name is Esam, I'm from Palestine, and I'd like to thank Lynette and the 3DCreative team for giving me the opportunity to talk about my work in this article.

The main goal of this project was to create what I personally feel when time takes us back to our childhoods, where we used to play together every day; to recreate a place that holds lots of memories of peace and love. Another motivation was to practice my texturing some more. I also originally wanted to make a simple camera motion for this piece, but the render time was not on my side in the end.


Fig.02

References

Before getting stuck into the work for this project, an important first step was to collect reference images that I thought would help in the creation of the image. There are many sites and many sources for high quality textures, such as collections like 3DTotal's Total Textures, and sites like www.cgtextures.com, www.environment-textures.com and many others (**Fig.01**).


Fig.03

Modelling

Modelling was not special in this scene, although you must always take care of the little details and things that will make your work distinct, such as cracks on the edges and interlacing wires, some pieces of scrap here and there, and so on. The buildings were so easy: to begin with just a plane or a box, and I then made the windows and doors and finished off with the fine details. With regards to the plants, I simply cut branches of a tree from Evermotion's Archmodels 52 collection of trees and bushes.

Here you can see that the power and telephone cables linking the buildings were also quite simple to create (**Fig.02**).

Here are some close-ups of the scene (**Fig.03**).

TEXTURING

Texturing was the most important part of this kind of work – it's all about the texturing! First of all, I had to prepare the buildings for texturing, which meant unwrapping. The unwrapping of the models in the scene was not too complex though, because the shapes were simple and so planner mapping worked well for me. I unfolded every part of the buildings and then rendered them in high resolution for texturing, at about 4000 x 4000 pixels. Here is a sample of an unwrapped building (**Fig.04**).

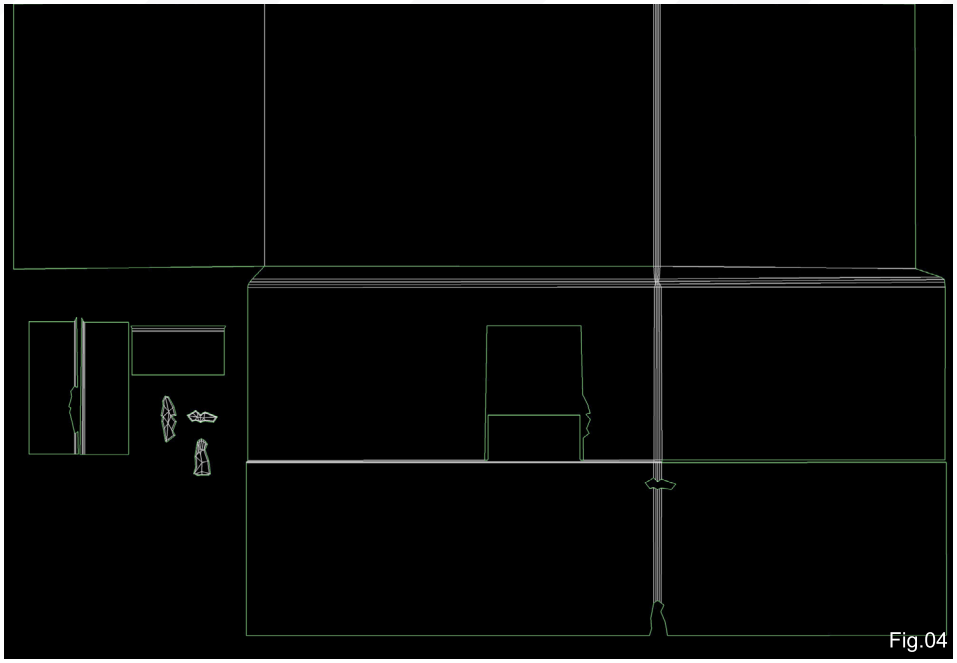
Fig.04

In Photoshop, I then created the main texture, which was composed of two different wall textures. I then added the other details such as cracks, dirt on the windows, cracked bricks, and so on (**Fig05**).

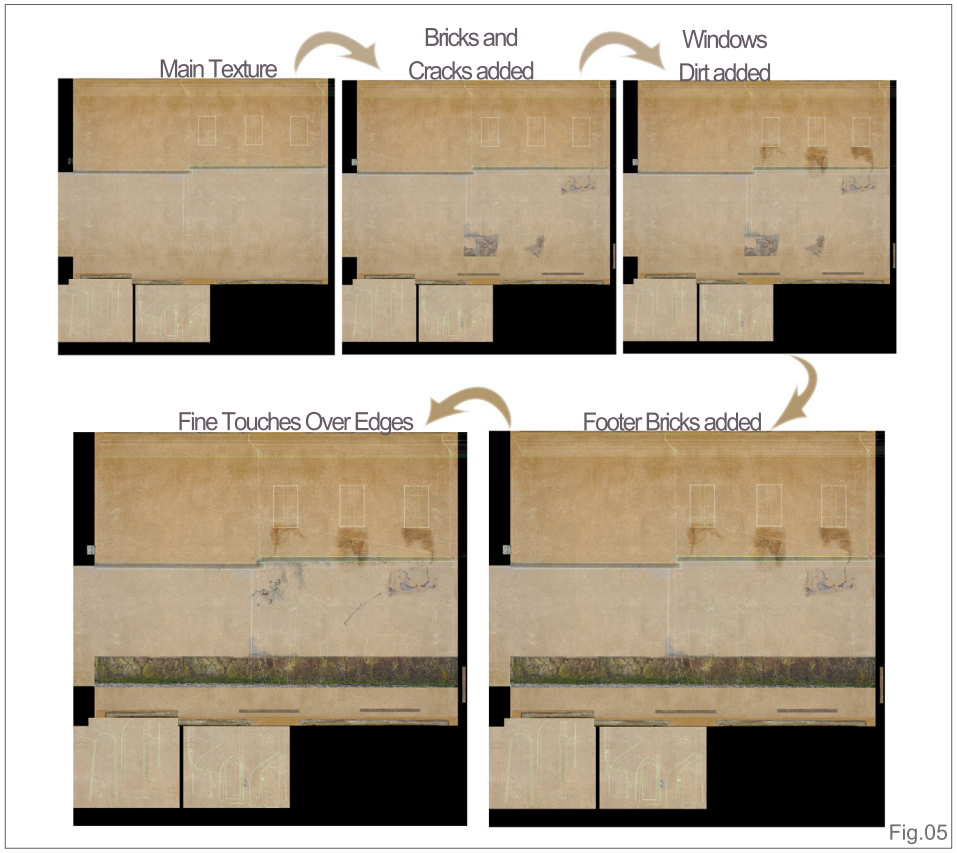

Fig.05

It all looks pretty easy from the images, but it actually takes a lot of time in order to search for the proper images of cracks and dirt, and then of course putting them in the appropriate places, for example between walls and under windows as it's natural for it to be dirty there.

With regards to blending and adding layers, this can be done in different ways; sometimes masking, painting, or even burning colours, but I like blending them using the layer blending options – putting the dirt layer above the main texture layer and playing with the blend IF sliders (**Fig06**). With this method it's easier, and it's all blended well in the under layer texture.

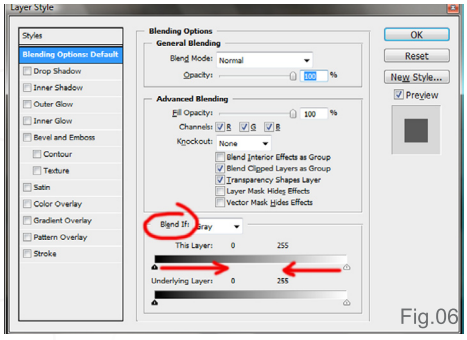
Fig.06

After making the diffuse texture, it was time to create the displacement texture. Please don't think that this just consists of a black and white conversion only, as you must treat every layer separately and calibrate its brightness and contrast. Also, some layers may require colour inversion, such as the "footer bricks" layer in our case (**Fig07**).

All textures were created in the same way. An important thing was the resolution, which had to be high – no lower than 3000 x 3000 – to get fine results. In this work, the building textures

were close to 3000 x 6000 pixels, and the ground texture was 8000 x 4000 pixels. The ground texture was composed of three different textures (**Fig.08**).

LIGHTING & RENDERING

I tried a lot of lighting setups, from hot sun to sunset, but I was not satisfied with the mood or the direct shadows and so I decided to make it a late afternoon lighting scenario, with a purple overall colour. So to do this, the Vray light of the Dome type was an appropriate choice for me, as there are no hard shadows and well-defined edges and details with this one. I also used HDRI in the Texture slot for the Vray light and a Vray physical camera (**Fig.09**). You can't set any of the light or camera parameters alone; you must work on them in parallel, even the render settings, especially for the colour mapping. The intensity of the Vray light depends on the ISO and shutter speed of the Vray physical camera, and these two depend on colour mapping, whether it's linear or exponential and vice versa.

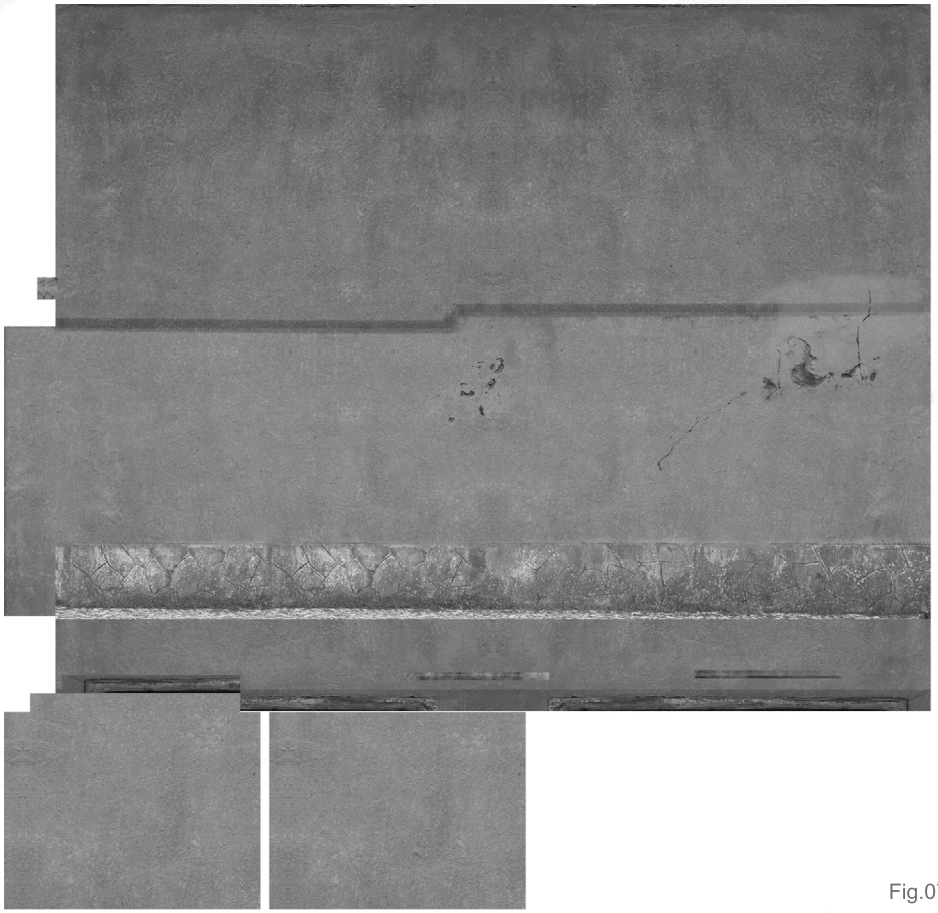

Fig.07

Fig.08

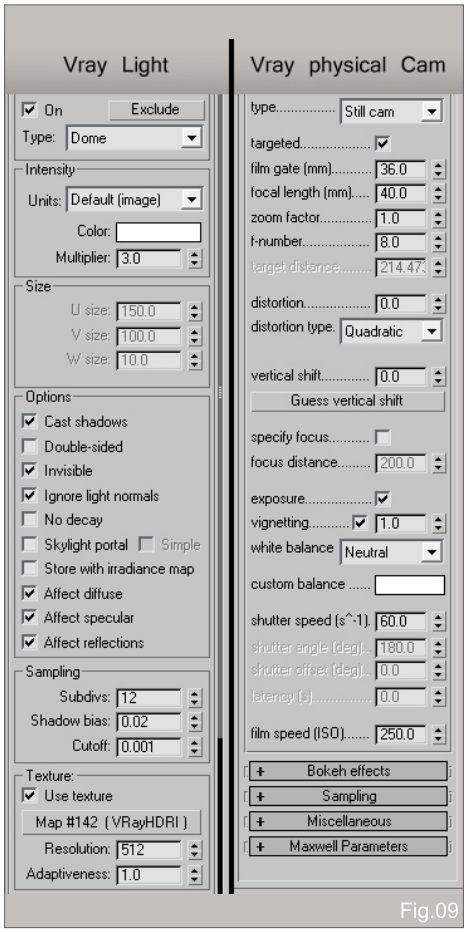

Fig.09

In this case, I worked in LWF (Linear Work Flow). What LWF does is it sets the display gamma to 2.2 in order to display the linear rendering data correctly on the monitor, but it needs some procedures such as calibrating the monitor brightness, setting gamma values in 3ds Max settings (**Fig.10**), and correcting the colour-corrected textures.

Now let's take a look at the rendering settings (**Fig.11**).

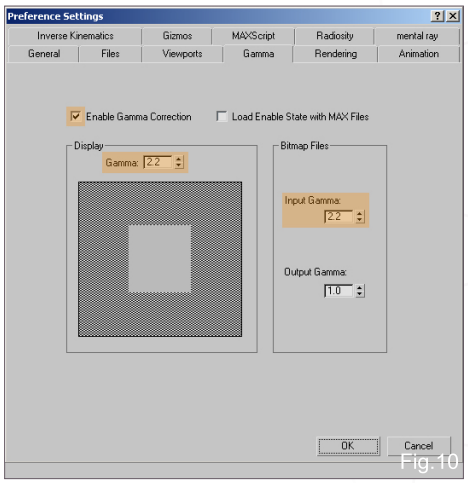

Fig.10

With regards to colour mapping settings, I used Gamma correction because I was using LWF. The inverse gamma value was 1/2.2, which is 0.4545. Important note: If your monitor is CRT then the gamma will be 2.5!

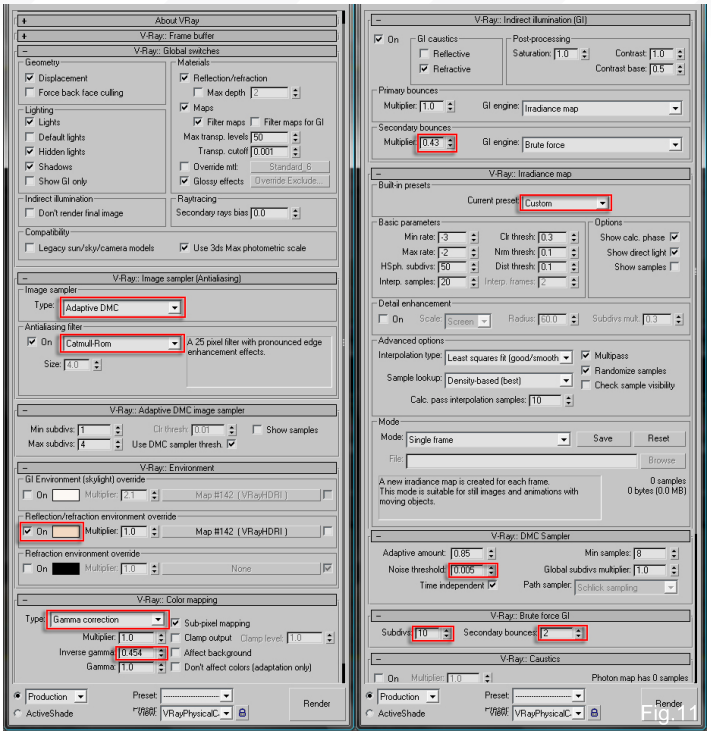

Fig.11

Post-Production

The post production process was not a big deal really. I used an Ambient Occlusion pass and added a bright purple photo filter layer – that was all!

Conclusion

Texturing was the main part of this work; it gives the life and reality to your scene, and the right lighting will also add to the mood of it!

Esam Darweesh

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Or contact:
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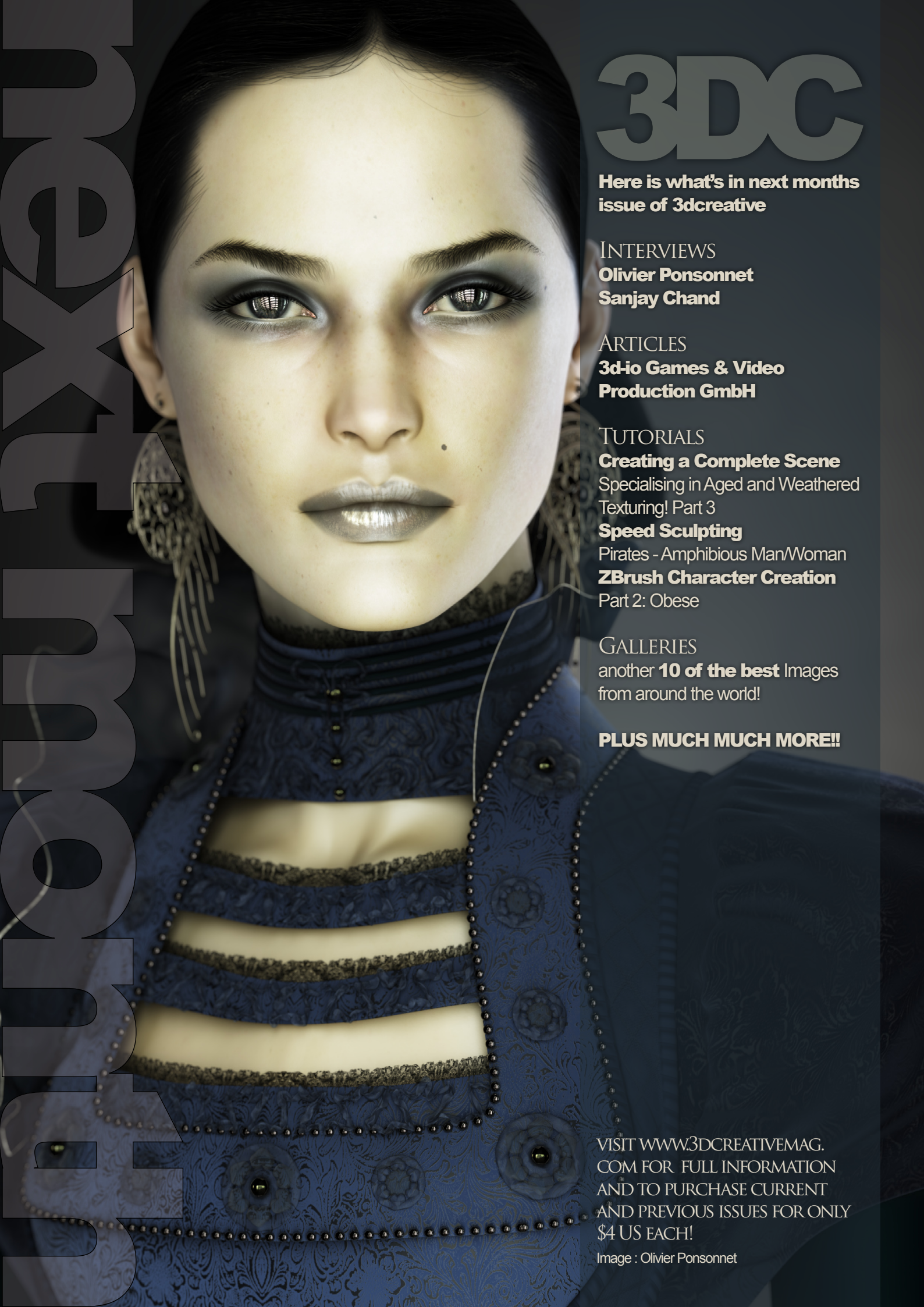
image : Eduardo Martin Julve



3DC

Here is what's in next months issue of 3dcreative

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Sanjay Chand

Articles

3d-io Games & Video Production GmbH

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Specialising in Aged and Weathered Texturing! Part 3
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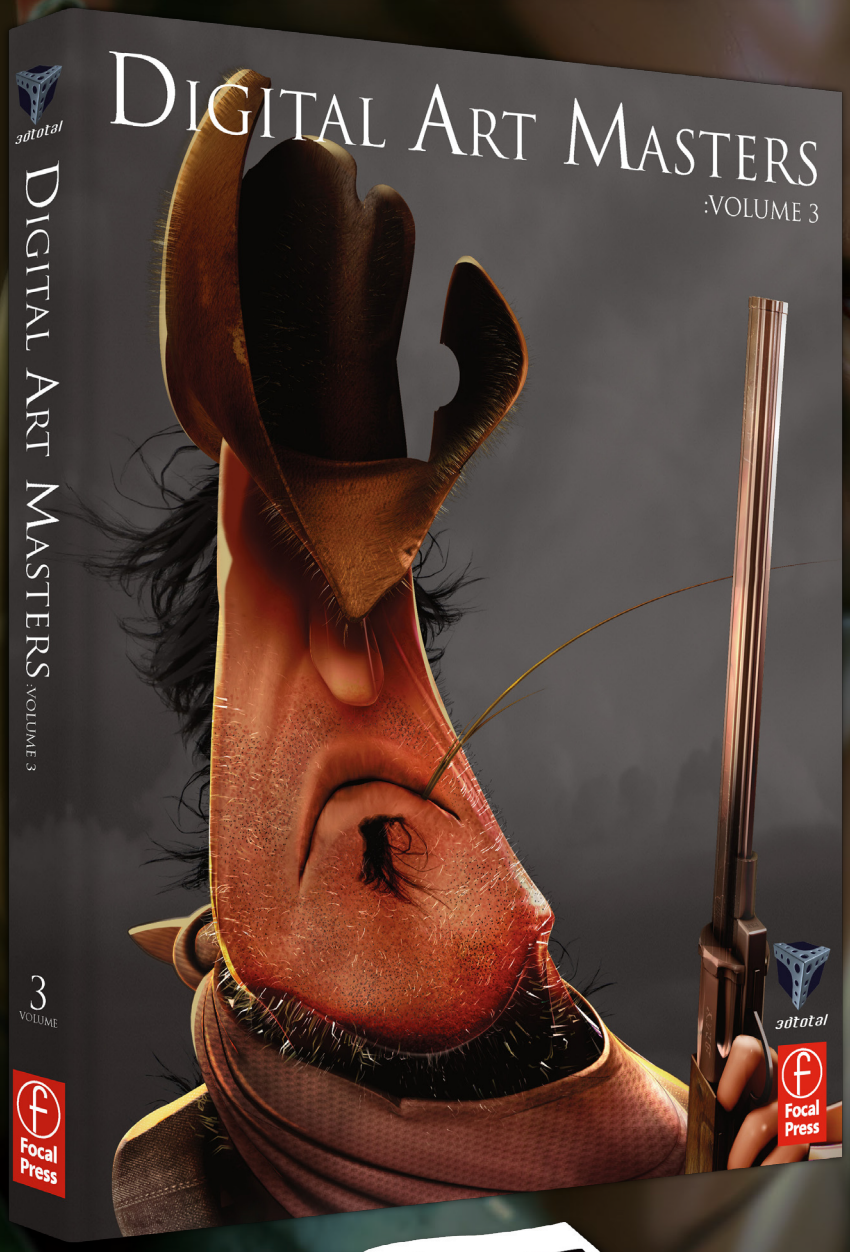
Digital Art Masters
Volume 3



With the release of 3DTotal's new book, *Digital Art Masters: Volume 3,* we have some exclusive chapters for you...

This book is more than just an artwork book. Not only does it feature full-colour, full-page images, but each artist has given a detailed description, in their own words, of the creation process behind each piece of published artwork. And they've done it especially for this book!

This month we feature:

"Anton"
by Jonathan Simard

The following shots of the “Anton” book pages are featured here in full-resolution and can be read by zooming in...

Anton

By Jonathan Simard

Introduction

Anton was the result of an experiment to change the workflow I'm used to. I didn't have a concept for this character, because the first idea was just to model a realistic character.

I always model more cartoon characters, so I decided to do something else this time. The problem was, I got bored at the start doing something realistic so I switched to something more interesting for me. For this character, I was inpired by Anton, the psychotic character in the movie *No Country for Old Men*, and by all the bad ass character designs I could find! The goal was to try to push the design further, more than my previous characters, and also to overstylize it.

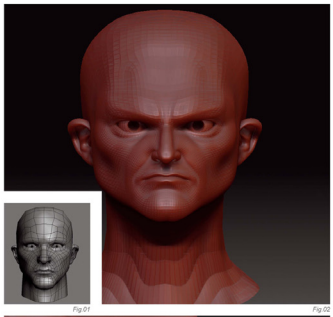


Fig.01 Fig.02

Workflow

Normally, I work the modeling in 3dstudio Max, because I've been a Max user since the beginning, but I decided to change my workflow a little. The basic shape of the character was done in ZBrush from a basic head which I created in Max. As I said, in the initial concept I was hoping to do was something realistic, so I started modeling a basic male head in Max (**Fig.01**) – something really simple. With this done, I exported it into ZBrush and I tried, for the first time, to remodel it with this software. I was used to adding little details in ZBrush, but not to working on the whole shape. The result (**Fig.02**) was more of a realistic approach, like I wanted, but I wasn't really happy because I like exploring extreme shapes in a character and trying different things. So, with

Fig.03

this same head, after a lot of manipulation in ZBrush, I ended up with something more intresting (**Fig.03**)!

Fig.04

Fig.05

I really liked the result, but I wanted something more like the characters I normally make, so I exported the model into Max (with two subdivision collapses!). I had to deal with too many polys, so by hand I deleted all the lines I didn't want, and then deleted half of it to find the symmetrical division (**Fig.04**). I then had a clean mesh to work with, and so came the time to remodel it and add more detail.

I always model faces in the same way. I find it easier to have a basic shape with fewer polys, in order to achieve the correct proportion. Afterwards I added all the detail I needed. From **Fig.04** to **Fig.05**, you can see the basic clean-up of the face, the latter showing more detail. It's easy to get lost when you have lots of polys on the head, and the last thing I wanted was to correct the proportion with too many polygons. It's also easy, when the proportions are good, to delete small parts of the model and redo it – it's like a mix between box modeling and edge extrusion!

You can see from **Fig.05** that I scaled down the eyes, nose and mouth and put them more in the center of the face. To do this, I selected the vertex on the face in Soft Selection mode and added an FFD box modifier and scaled down the control point in the middle (**Fig.06**).

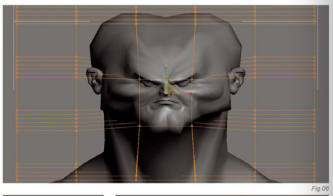


Fig.06

Fig.07

Fig.08

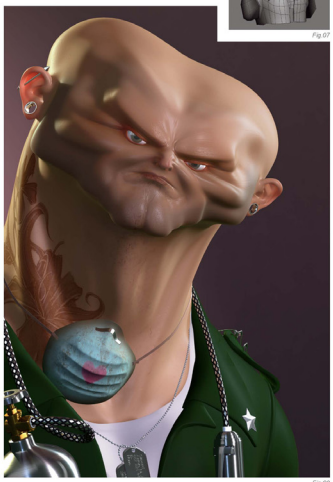


Fig.09

Sometimes I'll use the Soft Selection in Max, but this time I used the FFD box modifier. It helped me a lot to reshape the face, but also, if you make a mistake, you just have the delete the modifier and don't have to worry about the lack of "undos"!

The rest of the objects (**Fig.07–08**) employed simple modeling techniques, nothing exceptional. I knew I wanted some depth of field in the final picture, so I didn't spend too much time on modeling these. I just took care to achieve as a clean mesh as possible as it's important for me and you never know whether you'll need it in the future!

The texturing aspects were a real pain for me. I hated it, and I have even considered stopping texturing my characters in the future! I won't explain how I acheived it, because I don't want to talk about something I'm not really good at. The only major thing was the tattoo, but that was really easy. My girlfriend has a really nice, big tattoo which starts from her back and goes onto her chest. I had some photos of it so I tried to "melt" it onto the texture.

I always composite my final renders in Photoshop, because they never look good directly from Max (**Fig.09**). I have to make some adjustments, so basically, I render different passes in Max and then assemble them in Photoshop. I had the final render pass, the Ambient

Occlusion pass, selection pass (note that I have maybe six renders of different selections; you can also have one pass with a different color on every object with self illumination at 100!) and a lighting pass (**Fig.10**). The first thing I did was to adjust the brightness and contrast and the saturation of the final render. Afterwards I was able to form the picture using the different passes. When the final image was complete, I saved it, and as a different file, tried more color corrections and some minor adjustments. It's never the same – I just experiment and try different things!

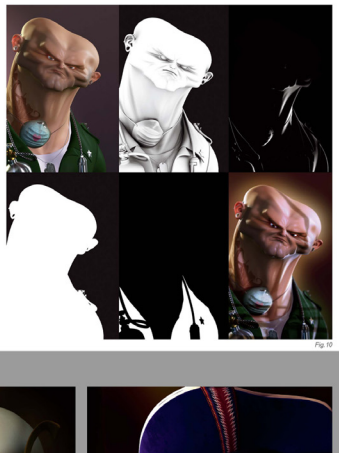


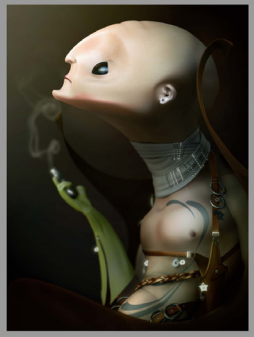
Fig.10

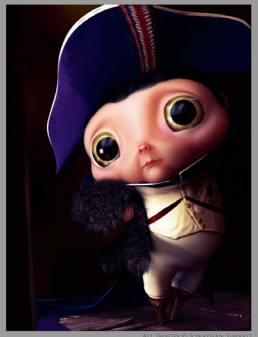
Conclusion

I'm never happy in the end, as with everything I do, because I know I could always work more on some areas. Something I've learnt from doing this was that I think I will stop creating textures, or will at least only make basic textures. I'm not a texturer and it's consistently the part I really hate to spend time on. On the other hand, I really like the design I achieved with this character; the way I've pushed it to the extreme with the neck being as wide as the head, and the way the mouth, nose and eyes are all small in the center.

Well, it's time to work on something new now!

Artist Portfolio





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